Integrated Systems: Neurology, Psychiatry, Musculoskeletal Medicine, Dermatology
MEDC-632 (14 Units)
Fall 2025
Class of 2028
Touro University College of Osteopathic Medicine

Course Coordinators(s):

Gloria Klapstein, Ph.D.
Pronouns: she, her, hers
Associate Professor, Foundational Biomedical Sciences Dept.
707-638-5271
gklapste@touro.edu
Administration & Faculty 1, Room 124
Office Hours by appointment

Jason Massa, D.O. (Neurology)
Pronouns: he, him, his
Assistant Professor, Dept. of Clinical Sciences-Community Health
707-638-5434
jason.massa2@tu.edu
Administration & Faculty 1, Room 111
Office Hours by appointment

Bronwyn Sing, D.O. (Musculoskeletal Medicine)
Pronouns: she, her, hers
Assistant Professor, Dept. of Clinical Sciences-Community Health
707-638-5422
bsing@touro.edu
Administration & Faculty 1, Room 112
Office Hours by appointment

Laurena Dongmo Fotsing (Dermatology)
Pronouns: she, her, hers
Assistant Professor, Dept. of Clinical Sciences-Community Health
707-638-5965
ldongmo@touro.edu
Office Hours by appointment

Administrative Coordinator(s):

Jennifer Lumaye
Pronouns: she, her, hers
Administrative Coordinator, Foundational Biomedical Sci. Dept.
707-638-5297
jcastro2@touro.edu

Course Description:
Course Description IS-NPMSD:
The IS-NPMSD course consists of 3 sections starting with the neurology/psychiatry section and continuing with the musculoskeletal section and then the dermatology section. The course spans the entire fall semester.

The Neurological and Psychiatric Systems section is composed of 4 major areas: Neuroanatomy, Neurophysiology, Clinical Neurology, and Psychiatry/Behavioral Medicine. A solid understanding of the functional anatomy and physiology of the normal central nervous system is essential to the recognition of the pathological processes, lesion localization, diagnosis and treatment of neurological and psychiatric diseases. This section also explores integrated topics on functional neurophysiology, clinical neurology, and psychiatry. It is designed to combine basic information concerning the structure and function of the nervous system with clinical information relevant to the practice of medicine.

The Musculoskeletal System section will provide the knowledge base for understanding of the fundamental relationship between structure and function in this important system, which is indispensable for a deep comprehension of muscle, bone and joint disorders. A discussion of the most important pathologies and their epidemiology, pathophysiology, clinical presentation, diagnostic features and principles of management will be the cornerstone of all the lectures, and will build upon the fundamentals of anatomy and Osteopathic Principles and Practice learned previously and concurrently. The section could also be described as an introduction to Orthopedics and Rheumatology.

The Dermatological System section includes knowledge of integumentary-related histology and pathology, and provides the basis for a clinical approach to diagnosis and treatment.

Modular format of curriculum:
Course content is roughly grouped into modules in order to provide a progressive and comprehensive view of neurological, musculoskeletal, and dermatologic systems. In many cases, these modules are coordinated with and include topics covered in the Osteopathic Doctoring 3 and Osteopathic Principles and Practice 3 curriculum, and some IS-NPMSD exams and assignments will include material covered in the other two courses. When material specific to courses other than IS-NPMSD is tested on an IS-NPMSD exam, points for those questions are applied to the grading grid of the appropriate course. Students are expected to be able to incorporate and apply all knowledge covered in their educational career to address questions of medical knowledge and practice.

AOA Competencies Addressed:
In alignment with the mission of TUCOM, the IS-NPMSD course requires students to develop competencies in preparation for their clinical training as a stepping-stone for additional mastery during the clinical training. The following competencies are addressed in this course, and are graded as course competencies:
- Medical Knowledge
- Patient Care
- Professionalism

Assessments for MK and PC will primarily be in the form of multiple choice exams. Assessments for Professionalism will primarily be on timely attendance and participation in course activities and assignments.

Students should refer to the competency milestones in the *"Student Guide to Competencies: Milestones, Feedback and Assessment",* for more complete descriptions of the two osteopathic core competencies addressed by this course.

Subject Threads:
The following subject threads will be evaluated in this course during the examinations, assignments, and activities provided:

Medical Knowledge subject threads
- Anatomy
- Biochem/Mol Bio/Genetics/Cell Bio
- Histology
- Immunology
- Microbiology
- Pathology
- Pharmacology
- Physiology

Course Learning Outcomes:
Course learning outcomes will be assessed primarily in multiple choice and/or written exams, team-based learning activities, in-class and/or online quizzes, assignments, and laboratory activities.

Course learning outcomes to be assessed in the Neurology/Psychiatry section
Upon completion of this course, the student should be able to:

1) Name and identify the normal anatomical structures of the head and of the nervous system and explain their function.

2) Describe the motor, sensory, autonomic, and special senses pathways through the central and peripheral nervous system that are presented during the course with a focus on their clinical relevance.
3) Demonstrate the ability to identify and differentiate deficits produced by lesions of motor, sensory, autonomic, and special senses pathways presented during the course, and apply this knowledge to recognize and analyze case presentations.
4) Recognize, analyze, and describe the main neurological and psychiatric diseases covered in the course, including patient presentations, pathological findings, diagnostic tests, disease progression, and general management strategies.
5) Explain and apply knowledge of the underlying pathophysiological mechanisms of neurological and psychiatric diseases presented during the course, integrating relevant concepts from pharmacology, immunology, biochemistry, genetics, and microbiology as appropriate.
6) Act in a professional manner and collaborate effectively with peers to improve overall understanding of the topics covered, solve problems, and actively engage in team-based activities and assignments to enhance learning outcomes.

Course learning outcomes to be assessed in the MSK section
Upon completion of this course, the student should be able to:

1) Describe normal structure and function of the bones, joints, muscles, nerves and vessels of the trunk and extremities.
2) Demonstrate the ability to accurately formulate differential diagnoses for a variety of musculoskeletal problems, considering relevant patient history, physical examination findings, and clinical reasoning.
3) Evaluate and select appropriate radiological studies, laboratory tests, and treatment options based on the specific characteristics of a given musculoskeletal problem. Also, effectively interpret radiological images and communicate findings clearly.
4) Analyze and explain the pathophysiology of various muscle, bone, and joint disorders, relating them to the clinical presentations discussed in the lecture objectives.
5) Identify and differentiate musculoskeletal problems that require urgent or emergency intervention and outline appropriate initial management steps in such cases.
6) Demonstrate a thorough understanding of rheumatologic disorders, including their underlying pathophysiological processes, and integrate knowledge of relevant lab tests and radiological studies for accurate diagnosis and disease monitoring.
7) Act in a professional manner and collaborate effectively in a team setting to improve overall comprehension of musculoskeletal medicine topics, collectively solve problems, and participate in team-based activities and assignments to promote interdisciplinary learning.

Course learning outcomes to be assessed in the Dermatology section
Upon completion of this course, the student should be able to:

1) Describe the normal anatomy and histology of the skin, including the cellular components and their functions, and how they function.
2) Explain the basic pathophysiology of common inflammatory, infectious, neoplastic, and autoimmune skin conditions, linking cellular and molecular changes to their clinical presentations.
3) Identify and differentiate between various primary and secondary dermatologic lesions using appropriate medical terminology.
4) Outline the key diagnostic approaches used in dermatology, including the indications and interpretations of biopsies, microscopy, and relevant laboratory tests.
5) Discuss the general principles of dermatological pharmacotherapy, including the mechanisms of action, routes of administration, and potential side effects of common topical and systemic medications used for skin diseases.
6) Recognize the clinical presentation of common life-threatening dermatological emergencies and understand the immediate steps for their management.
7) Correlate systemic diseases with their cutaneous manifestations, recognizing that skin findings can be important clues to underlying internal conditions.
8) Formulate a basic differential diagnosis for common dermatological complaints, considering patient history, physical examination findings, and epidemiological factors.

The student should make it a goal to develop sufficient understanding of the material presented in this course to be useful as a tool as they approach clinical training.

Learning Resources and Communication:
Our principal form of communication outside the classroom will be the IS-NPMSD Canvas Course. Assignments, schedule changes, important information about the course, grades, etc. will be posted on Canvas, or distributed via emails sent from Canvas or emails sent through the TUC network. Students are requested to enable their settings in Canvas in order to receive email notifications. Students are responsible for reading faculty communications and for looking up assignments and other information posted on Canvas **every day**.
Please do not hesitate to contact the course coordinators with any questions at any time. Our office hours vary and we suggest you make an appointment. Please do not request a meeting time during an hour in which you are scheduled to participate in mandatory activities.

Attendance and Participation
A number of events in IS-NPMSD require mandatory attendance, including Module exams and other events marked by an asterisk in the course schedule. Curricular events will be delivered on-campus or online as noted in the course schedule. **Module exams in IS-NPMSD for the Fall 2025 term are expected to be all conducted on campus.** Class participation is an important aspect of your medical education. It is both a requirement of

Touro University and a vital tool to assist the student in integrating information from different sources and understanding of basic underlying concepts and their clinical application. You are expected to attend all laboratory and small group sessions. There are no make-up sessions for such sessions and students must attend graded events to receive full credit for the learning experience. Attendance at certain events may be taken using sign-in sheets or electronically. Students should be prepared to use electronic devices as needed (e.g. laptop or phone) to ensure that attendance is recorded accurately. Lecture attendance is also recommended, and you are responsible for all subject material covered in the lecture sessions, even if technical problems make lecture recordings unavailable.

Assessment and Grading:

Student performance is recorded in Canvas and internal gradebooks according to existing grading grids – a final course grade of Pass still requires that students meet the criteria for passing that are stipulated in each syllabus as approved by the Curriculum Committee. Students will be informed of their score and the class mean for each graded assessment (where means are available), as well as their cumulative course score throughout the term; however, no relative performance data (e.g., rank in class, z-score, percentile) will be published to students in ExamSoft, Canvas, Progress IQ, Subject Mastery Reports, or other class-wide venues, communications and platforms. Transcripts therefore will show P (Pass) or NP (No Pass) grades for the IS-NPMSD course as a whole and for the course's Medical Knowledge and Professionalism competencies. Criteria for passing the course and competencies are provided below. Students can earn an overall course grade through a variety of assessments including high-value summative examinations and low-stake formative assignments such as quizzes, Team Based/ Case Based application sessions, TrueLearn assignments, Lab sessions and attendance at required sessions. There are ten end of module summative exams and several formative assessments. The percentage contribution of each exam and Assignment is available in the Course grading grid. All 'Exam' and 'Assignment' details with dates will be published on specified IS-NPMSD course Canvas pages.

Summative Exams (high-stake)

Exam Format: High-stake Module exams are administered using the ExamSoft-Examplify platform. All information about the specific testable objectives, date and time of the exams and procedures will be published on Canvas in advance of the exam. Students will have an opportunity to download the locked exam file in advance of the exam date. Students should inform the course coordinator about any technical difficulties with the download process as soon as possible.

On the exam day, students are expected to be present at their exam location at least 15 minutes before the start time and have their computers ready. Please note that tardiness or late arrival may result in less time available for completion of the exam. The **'tardy to exam policy'** states that if a student arrives more than 20 minutes after the

scheduled start time of an exam, they may elect to either receive a zero on the exam OR take the exam and receive a professionalism penalty. The exam time will not be extended past the scheduled exam duration to accommodate late arrival. Excused absences/lateness must be approved by academic affairs.

Students are expected to complete the exam and the post-exam review (when applicable), within the specified time frame and upload the exam prior to leaving the exam room. In case there are any challenges for the exam questions, these should be addressed to the responsible Faculty or to the course coordinator in writing soon after the exam or via email within a specified deadline as announced by the Course Coordinator. If deemed appropriate, adjustments will be made. Thereafter, the final grades for the Exam may be made available to the students via ExamSoft email and will be published in the Canvas grade center.

Excused absences from exams
In case students are unable to attend an examination for any reason, they are required to contact Dr. Alesia Wagner, Associate Dean of Academic Affairs. Please refer to the Student Handbook for a complete description of the policy.

Make-up examinations
Approved make-up examinations will be scheduled by the Course Coordinators after the regularly scheduled examinations. Absence from Module exams may be "Excused" by the Academic Affairs department, and in such cases, makeup assessment will be offered. Make-up examinations for all excused absences (approved by the Associate Dean for Academic Affairs) will reflect the same objectives as previously covered in the course and may be in a comparable or different format such as essay questions or oral exams, at the discretion of course coordinators. If multiple students miss a regularly scheduled examination, the make-up examination may be given to all students simultaneously. However, all students will be expected to follow the handbook policy of completing their exams within three (3) business days of their return to campus. Exceptions to that policy will be cleared with the Associate Dean of Academic Affairs.

An unexcused absence from a Module exam is a serious occurrence. The student with an unexcused absence from a Module exam will be allowed to make up the exam per Student handbook policy and will accrue a Professionalism penalty as detailed in the Professionalism grading grid. Unexcused absence from a second or subsequent Module exam will result in a grade of 0%, and additional Professionalism penalties.

Makeup assessments will not be offered for mandatory events other than Module exams, however students will be expected to learn the material. Absence from mandatory events will accrue a professionalism penalty as detailed in the Professionalism Competency Metric (see below).

Assessments and Grading System: Please note all scores noted throughout this syllabus **pertain to unrounded grade score numbers**.

Students enrolled in the course will be assessed through a variety of formats that may include summative 'Module Examinations', and 'Assignments' including, for example, quizzes, Team Based/Case Based sessions/ Lab sessions, Culinary Medicine modules, and TrueLearn assignments.

Overview of the course grading along with Competency subcategories.

	Grade type	Subcategories/components included	Pass criteria
I	Overall Course	Module Exam grades Competency grades Subject Thread grades	Pass Module exams, Pass MK, PC, Prof competencies, Pass tracked subject threads, Meet additional specific criteria for exams, events, and assignments
II	Medical Knowledge(MK)	Module exam items that are categorized as MK, Module exam items that are categorized for MK subject threads	Score 70.00% or higher on MK items, Score 70.00% or higher in each MK subject thread
III	Patient Care(PC)	Module exam items that are categorized as PC	Score 70.00% or higher on PC items
IV	Professionalism (Prof)	Exam professionalism, attention to detail, timeliness, attendance	Obtain at least 70.00% in total sum of professionalism points

Contribution and percentage weighting of scored assessments to the IS-NPMSD Course Grade and across IS-NPMSD competency grades are outlined in the grading summary and grading grid tables below.

Pass Criteria for the Course:

1. Students must pass the course by obtaining all of the following:
   a. A score of no less than 70.00%, without rounding, measured as the Module Exam weighted average score of all exams (see the Module Exam metric table below)
   b. A score of no less than 70.00%, without rounding, in Module exams, such that the sum of the % weights of the exams passed is no less than 70.00% of the total course grade. (see the Module Exam metric table below)
   c. A passing grade (at least 70.00%) in Medical Knowledge (see MK Subject Thread and Competency Metric below)
   d. A passing grade (at least 70.00%) in Patient Care (see PC Competency Metric below)
   e. A passing grade (at least 70.00%) in Professionalism (see Professionalism (P) Competency Metric below)
2. Students must attend at least 79%, without rounding, of mandatory events

Course grading grid:

Module Exam Metric	
	Course Weight %
Module 1 exam	12.5
Module 2 exam	7.8
Module 3 exam	7.4
Module 4 exam	10.7
Module 5 exam	12.0
Module 6 exam	12.3
Module 7 exam	11.6
Module 8 exam	6.3
Module 9 exam	8.8
Module 10 exam	10.6
% of the Course	**100.00**

Competency grading grid:

Competency Metric		
	% of MK	% of PC
Medical Knowledge questions on Module exams	100%	
Patient care questions on Module exams		100%

MK Subject Thread Metric	
	% of course
Anatomy	
Biochem/Mol Bio/Genetics/Cell Bio	
Histology	Calculated in Canvas as cumulative running total throughout the course
Immunology	
Microbiology	
Pathology	
Pharmacology	
Physiology	

<u>Module exam Passing Requirerments:</u>
If a student scores <70.00%, without rounding, on any module exam, they will be considered to have failed that exam. Failure of any combination of module exams whose summed weighted value is greater than 30.00% of the course will not be eligible for remediation, and a student will be deemed to have failed the course. (see Module

exam metric table above)

<u>Competency Passing Requirements:</u>
To pass the course, students must earn at least 70.00%, without rounding, in each of the Competencies: Medical Knowledge, Patient Care, Professionalism. Medical Knowledge Competency comprises all Module Exam questions categorized as Medical Knowledge. Patient Care Competency comprises all Module Exam questions categorized as Patient Care. Professionalism comprises all events, activities, and assignments described in the Professionalism Competency metric below.

<u>Medical Knowledge Subject Thread Passing Requirements:</u>
Many of the Examsoft questions in the Medical Knowledge competency will be assigned one of the Medical Knowledge subject threads: Anatomy, Biochem/Mol Bio/Genetics/Cell Bio, Histology, Immunology, Microbiology, Pathology, Pharmacology, Physiology. The Thread scores reported in Canvas gradebook will include performance on all questions which are assigned to a given subject thread on Examsoft-based Module exams delivered in IS-NPMSD. The Canvas Gradebook will include a score for each thread from each individual Module exam, and also a cumulative running total for each thread. If a student scores <70.00% on any subject thread, they will need to successfully complete a remediation for that thread in order to pass the course.

For failed Competencies or Subject Threads:
<u>Remediation will be offered at the end of the course and prior to grade submission, *only* if the sum of the weighted values of the failed exams is no more than 30.00% of the course *AND* the sum of the weighted value of failed competencies is no more than 30.00% of the course, *AND* the sum of the weighted value of failed subject threads is no more than 30.00% of the course.</u>
Failure of any combination of exams **<u>or</u>** any combination of competencies **<u>or</u>** any combination of subject threads whose summed weighted value is greater than 30.00% of the course will not be eligible for remediation, and a student will be deemed to have failed the course.

<u>Professionalism (Prof) competency:</u>

Professionalism related expectations include:
• **Honesty and Integrity** - in exams, assignments and communications.
• **Responsibility, Reliability, and Accountability** - being punctual to events, contributing to teamwork, timely submission of quizzes/assignments, etc.
• **Respect for others** at all times and in all settings.

Academic integrity – unless explicitly stated (e.g. during TBL activities or certain laboratory associated team assignments), all submitted work in the IS-NPMSD course must be done individually and must be unique to the student submitting an assignment. Please reference the complete TUS Academic Integrity Policy for additional information regarding concerns about academic integrity, including plagiarism. Violations of this

policy will impact your final course grade and warrant a referral to our Chief Academic Integrity Officers.

The Professionalism (Prof) competency is evaluated on:
- Effort (based on performance on formative assignments or any graded assessments other than module exams)
- Attention to detail (based on ability to follow directions)
- Timeliness (based on timely arrival to exams, and timely submission of assignments that are completed as directed), and
- Participation in specified activities, including group or team activities (indicated by asterisks on calendar and/or Canvas weekly schedule pages).

Your Professionalism grade will be calculated according to the Professionalism Grading Grid below. You will have opportunities to earn points by participating in the course and completing assignments as directed. The Professionalism competency grade is calculated by subtracting the "points lost" from the "points earned". **To pass professionalism, you must score an overall grade of no less than 70.00% overall in the Prof competency.**

Earning points: You will earn Professionalism points equal to your grade in the assignments weighted average grade. Formative assignments are assigned throughout the term. Points are earned by completing assignments as directed, and attending and participating in group sessions.

A cumulative running total will be provided in the Canvas gradebook calculated as cumulative points earned out of cumulative points possible:

$$100\% * \left(\frac{(the\ number\ of\ points\ earned)}{(total\ number\ of\ points\ possible)} \right)$$

Losing points: You will lose Professionalism points based on:
- Late arrival to or absence from exams, or failure to follow directions,
- Late submission of assignments or failure to complete them as directed,
- Late arrival to, or failure to participate in group activities, and other specified activities (denoted by asterisks on the schedule)

If your total sum of Professionalism points is no less than 70.00% by the end of the term, you will have passed the competency.

Professionalism (P) Competency Metric		
Earned points from Effort	Assignments weighted average grade	$100\% * \left(\dfrac{the\ number\ of\ points\ earned}{total\ number\ of\ points\ possible} \right)$
Exam professionalism	Unexcused late to exam by more than 20 minutes (per policy)*	Subtract 16% for each instance
	Unexcused late arrival to exam by less than 20 minutes (per policy)*	subtract 5% for each instance
Attention to detail	Failure to follow directions given during exams (turning in scratch sheets, showing green screen, putting away notes/cell phones, etc.)	subtract 2% for each instance
	Failure to follow directions in activities and assignments	subtract 2% for each instance
Timeliness	Late submission by up to 1 hour, of an assignment that is completed as directed	subtract 2% for each instance
	Late submission by 1-24 hours, of an assignment that is completed as directed	subtract 3% for each instance
	Late submission by >24 hours (or no submission) of an assignment that is completed as directed	Subtract 5% for each instance
Participation	Failure to participate in, or late arrival by more than 15 minutes to asterisk-specified activities subtracts 5 points for each instance (in addition to any assignment points subtracted for assignments associated with that activity)	subtract 5% for each instance
		Total must be no less than 70.00% to pass

*The Tardy to exam policy states that if a student arrives more than 20 minutes after the scheduled start time of an exam, they may elect to either receive a zero on the exam OR take the exam and receive a professionalism penalty. The exam time will not be

extended past the scheduled exam duration to accommodate late arrival. Tardy to any event by more than 30 minutes is considered an absence, and a student will be referred to Academic Affairs to determine eligibility for a makeup exam. Excused absences/lateness must be approved by academic affairs.

Remediation

Summary of remediation opportunities in the course:

- No remediations will be offered to students who fail any combination of module exams _or_ any combination of competencies, _or_ any combination of subject threads if the sum of the weighted values of the failed entities is more than 30.00% of the course, without rounding.
- Remediation will be offered to students who score less than 70.00% in the Professionalism competency, but only if they have passed the Module exam, Competency, and Subject Thread requirements for passing, or have successfully remediated the same.
- The remediation period is from the last day of classes until the grade reporting deadline, two (2) weeks after the last day of class.
- The remediation work may be examination, written or oral assignment or a combination of these types of assessments deemed appropriate by the course coordinator to demonstrate the student has attained the learning outcomes established in this syllabus.
- If remediation is offered, the remediation must be passed to pass the course. Passing criteria for remediations will be published prior to the remediation.
- Students attending fewer than 79%, without rounding, of mandatory events will not be offered remediations.

Students with an 'NP' reported by the reporting deadline will be considered by the Student Promotions Committee.

Further details are available in the Repeat Courses and Remediation section of the Student Handbook.