Medical Biophysics

MEDBIO 3330F— HUMAN BIOMECHANICS WITH BIOMEDICAL APPLICATIONS

This course overview has been created to communicate expectations for 2020/2021 courses offered by the basic medical science departments to help you plan your semesters. This is a draft and final details will be reflected in the syllabus closer to the start date of the course. Refer to previous course syllabi for learning outcomes.

Instructor: Abbas Samani **Email:asamani@uwo.ca**

Course description

The official course description can be found in the Academic Calendar. Instructors may or may not adhere to the Extra Information found in the Academic Calendar in terms of the number of lecture/tutorial/lab hours. See below for more information about course delivery mode and time estimates. These time estimates do not include assessments or independent study.

Required:

 Stable internet connection

 Laptop or computer

 Working microphone

 Working webcam

Delivery mode:

This course be delivered completely online. Virtual sessions will be a combination of synchronous (live) and asynchronous (recorded). Students could be expected to complete work prior to attending sessions. Timetabled sessions could be used for lectures, tutorials, discussions, groupwork, etc. Below are details about the sessions.

Mode	Dates	Time	Frequency**	Attendance
Virtual synchronous*	T	11:30-12:30	weekly	Yes
Virtual asynchronous	Th	11:30-1:30	weekly	N/A
Virtual synchronous	F	3:30-5:30	weekly	Yes

*Virtual synchronous sessions will be recorded for later viewing
**A schedule will be posted

Assessments:

Examples of assessments that could be assigned in this course are highlighted in yellow; these examples are based on previous offerings of the course and the learning outcomes that have been set.

Weekly quizzes	Participation	Take home tests/exams
Written assignments	Discussion forums	Timed tests/exams
Oral presentations	Groupwork	Proctored tests/exams
Other:	Other:	Other:

Medical Biophysics

MEDBIO 3501A—Biophysics of Transport Systems

This course overview has been created to communicate expectations for 2020/2021 courses offered by the basic medical science departments to help you plan your semesters. This is a draft and final details will be reflected in the syllabus closer to the start date of the course. Refer to previous course syllabi for learning outcomes.

Instructor: Dr. John McGuire **Email:** John.McGuire@schulich.uwo.ca

Course description

The official course description can be found in the Academic Calendar. Instructors may or may not adhere to the Extra Information found in the Academic Calendar in terms of the number of lecture/tutorial/lab hours. See below for more information about course delivery mode and time estimates. These time estimates do not include assessments or independent study.

Required:

 Stable internet connection

 Laptop or computer

 Working microphone

 Working webcam

Delivery mode:

This course will be delivered completely online. Virtual sessions will be a combination of synchronous (live) and asynchronous (e.g. recorded; interactive; forum/group chat) modes. Students could be expected to complete work prior to attending sessions. Timetabled sessions could be used for lectures, tutorials, discussions, groupwork, etc. Below are details about the sessions.

Mode	Dates	Time	Frequency**	Attendance
Virtual synchronous*	Tues/ Wed	By section: Tuesdays 12:30 pm – 1:30 pm or Wednesdays 11:30 am - 12:30 pm	weekly	Yes
Virtual asynchronous	N/A	2 hours	weekly	N/A

* The instructor, and Teaching Assistants may record Virtual synchronous sessions for later viewing either in whole or in part.

**A schedule will be posted with the final version of the course syllabus.

Assessments:

Examples of assessments that could be assigned in this course are highlighted in yellow; these examples are based on previous offerings of the course and the learning outcomes that have been set.

Weekly quizzes	Participation	Take home tests/exams
Written assignments	Discussion forums	Timed tests/exams
Oral presentations	Groupwork	Proctored tests/exams

Medical Biophysics
MEDBIO 3507G—Analysis of Oxygen Transport

This course overview has been created to communicate expectations for 2020/2021 courses offered by the basic medical science departments to help you plan your semesters. This is a draft and final details will be reflected in the syllabus closer to the start date of the course. Refer to previous course syllabi for learning outcomes.

Instructor: D. Goldman **Email:** dgoldma2@uwo.ca

Course description
The official course description can be found in the Academic Calendar. Instructors may or may not adhere to the Extra Information found in the Academic Calendar in terms of the number of lecture/tutorial/lab hours. See below for more information about course delivery mode and time estimates. These time estimates do not include assessments or independent study.

Required:

 Stable internet connection

 Laptop or computer

 Working microphone

Delivery mode:
This course will be delivered completely online. Virtual sessions will be synchronous (live). Students could be expected to complete work prior to attending sessions. Timetabled sessions could be used for lectures, tutorials, discussions, groupwork, etc. Below are details about the sessions.

Mode	Dates	Time	Frequency**	Attendance
Virtual synchronous*	T/Th	9:30-10:20	weekly	Optional
Virtual synchronous*	W or Th	2:30-4:30	weekly	Yes

*Virtual synchronous sessions will be recorded for later viewing

Assessments:
Examples of assessments that could be assigned in this course are highlighted in yellow; these examples are based on previous offerings of the course and the learning outcomes that have been set.

Weekly quizzes	Participation	Take home tests/exams
Written assignments	Discussion forums	Timed tests/exams
Oral presentations	Groupwork	Proctored tests/exams
Other:	Other:	Other:

Medical Biophysics

MEDBIO 3518B—Introduction to Molecular Imaging

This course overview has been created to communicate expectations for 2020/2021 courses offered by the basic medical science departments to help you plan your semesters. This is a draft and final details will be reflected in the syllabus closer to the start date of the course. Refer to previous course syllabi for learning outcomes.

Instructors: Dr. Savita Dhanvantari
Dr. Donna Goldhawk
Dr. Mamadou Diop
Dr. Paula Foster

Email: sdhanvan@lawsonimaging.ca
goldhawk@uwo.ca
mdiop@uwo.ca
pfoster@robarts.ca

Course description
The official course description can be found in the Academic Calendar. Instructors may or may not adhere to the Extra Information found in the Academic Calendar in terms of the number of lecture/tutorial/lab hours. See below for more information about course delivery mode and time estimates. These time estimates do not include assessments or independent study.

Required:

 Stable internet connection

 Laptop or computer

 Working microphone

 Working webcam

Delivery mode:
This course will be delivered completely online. Virtual sessions will be a combination of synchronous (live) and asynchronous (recorded). Students could be expected to complete work prior to attending sessions. Timetabled sessions could be used for lectures, tutorials, discussions, groupwork, etc. Below are details about the sessions.

Mode	Dates	Time	Frequency**	Attendance
In person	M/W/F	1:30-2:20	weekly	Optional
Virtual synchronous*	M/W/F	1:30-2:20	weekly	Yes
Virtual asynchronous	N/A	3 hours	weekly	N/A

[*Virtual synchronous sessions will be recorded for later viewing]
[**A schedule will be posted]

Assessments:
Examples of assessments that could be assigned in this course are highlighted in yellow; these examples are based on previous offerings of the course and the learning outcomes that have been set.

Weekly quizzes	Participation	Take home tests/exams
Written assignments	Discussion forums	Timed tests/exams
Oral presentations	Groupwork	Proctored tests/exams
Other:	Other:	Other:

Medical Biophysics
MEDBIO 3970Z—General Biophysics Lab

This course overview has been created to communicate expectations for 2020/2021 courses offered by the basic medical science departments to help you plan your semesters. This is a draft and final details will be reflected in the syllabus closer to the start date of the course. Refer to previous course syllabi for learning outcomes.

Instructor: John Ronald, Ph.D. **Email:** jronald@robarts.ca

Course description
The official course description can be found in the Academic Calendar. Instructors may or may not adhere to the Extra Information found in the Academic Calendar in terms of the number of lecture/tutorial/lab hours. See below for more information about course delivery mode and time estimates. These time estimates do not include assessments or independent study.

Required:

 Stable internet connection

 Laptop or computer

 Working microphone

 Working webcam

Delivery mode: *[update content in square brackets; delete rows in the table that do not apply]*
This course [will have in person components or will be delivered completely online]. Virtual sessions will be [synchronous (live), asynchronous (recorded), or a combination of synchronous (live) and asynchronous (recorded)]. Students could be expected to complete work prior to attending sessions. Timetabled sessions could be used for lectures, tutorials, discussions, groupwork, etc. Below are details about the sessions.

Mode	Dates	Time	Frequency**	Attendance
Virtual synchronous*	M	[10:30-1:30; 2:30-5:30]	[Every 2 Weeks]	Yes
Virtual asynchronous	N/A	[1-3 hours]	[Every 2 Weeks]	N/A

[*Virtual synchronous sessions will be recorded for later viewing]
[**A schedule will be posted]

Assessments:
Examples of assessments that could be assigned in this course are highlighted in yellow; these examples are based on previous offerings of the course and the learning outcomes that have been set.

Weekly quizzes	Participation	Take home tests/exams
Written assignments	Discussion forums	Timed tests/exams
Oral presentations	Groupwork	Proctored tests/exams
E-poster presentations	Journal Club	Other:

Medical Biophysics
MEDBIO 4445A—Digital Imaging Processing

This course overview has been created to communicate expectations for 2020/2021 courses offered by the basic medical science departments to help you plan your semesters. This is a draft and final details will be reflected in the syllabus closer to the start date of the course. Refer to previous course syllabi for learning outcomes.

Instructor: Hanif M. Ladak **Email:** hladak@uwo.ca

Course description
The official course description can be found in the Academic Calendar. Instructors may or may not adhere to the Extra Information found in the Academic Calendar in terms of the number of lecture/tutorial/lab hours. See below for more information about course delivery mode and time estimates. These time estimates do not include assessments or independent study.

Required:

 Stable internet connection

 Laptop or computer

 Working microphone

 Working webcam

Delivery mode:
This course will have content that will be delivered online as well as an optional in-person component. Virtual sessions will be a combination of asynchronous (recorded) lectures and synchronous (live) office hours. Students could be expected to complete work prior to attending sessions. Timetabled sessions could be used for lectures, tutorials, discussions, groupwork, etc. Below are details about the sessions.

Mode	Dates	Time	Frequency**	Attendance
In person	M	7:30 PM - 8:30 PM	Weekly	Optional
In person	W	6:30 PM - 7:30 PM	Weekly	Optional
In person	F	12:30 PM - 1:30 PM	Weekly	Optional
Virtual synchronous*	T	1:30 PM - 3:30 PM	Weekly	Optional
Virtual asynchronous	N/A	3 hours	Weekly	N/A

**A schedule will be posted

Assessments:
Examples of assessments that could be assigned in this course are highlighted in yellow; these examples are based on previous offerings of the course and the learning outcomes that have been set.

Weekly quizzes	Participation	Take home tests/exams
Written assignments	Discussion forums	Timed tests/exams
Oral presentations	Groupwork	Proctored tests/exams
Programming assignments	Other:	Other:

Medical Biophysics

MEDBIO 4455A — Biological Control Systems

This course overview has been created to communicate expectations for 2020/2021 courses offered by the basic medical science departments to help you plan your semesters. This is a draft and final details will be reflected in the syllabus closer to the start date of the course. Refer to previous course syllabi for learning outcomes.

Instructor: James Lacefield **Email:** jlacefie@uwo.ca

Course description

The official course description can be found in the Academic Calendar. Instructors may or may not adhere to the Extra Information found in the Academic Calendar in terms of the number of lecture/tutorial/lab hours. See below for more information about course delivery mode and time estimates. These time estimates do not include assessments or independent study.

Required:

 Stable internet connection

 Laptop or computer

 Working microphone

 Working webcam

Delivery mode:

This course will have optional in-person components. Virtual sessions will be asynchronous (recorded). Students could be expected to complete work prior to attending sessions. Timetabled sessions could be used for lectures, tutorials, discussions, groupwork, etc. Below are details about the sessions.

Mode	Dates	Time	Frequency	Attendance
In person	M W F	7:30 pm 6:30 pm 12:30 pm	Weekly Weekly Weekly	Optional Optional Optional
Virtual asynchronous	N/A	3 hours	Weekly	N/A

Assessments:

Examples of assessments that could be assigned in this course are highlighted in yellow; these examples are based on previous offerings of the course and the learning outcomes that have been set.

Biweekly quizzes	Participation	Take home tests/exams
Written assignments	Discussion forums	Timed tests/exams
Oral presentations	Groupwork	Proctored tests/exams
MATLAB simulations	Other:	Other:

Medical Biophysics
MEDBIO 4475A – Medical Imaging

This course overview has been created to communicate expectations for 2020/2021 courses offered by the basic medical science departments to help you plan your semesters. This is a draft; final details will be reflected in the syllabus closer to the course start date. Refer to prior course syllabi for learning outcomes.

Instructors: Maria Drangova (coordinator), Jim Lacefield, Ian Cunningham, Keith St. Lawrence, David Holdsworth **Email:** mdrangova@robarts.ca

Course description
Through this introductory course the student will learn the physics and methods of how medical images are formed. By the end of the term the student will understand how images are formed for the following different imaging modalities: ultrasound, x-rays, computed tomography, nuclear medicine, positron-emission tomography, and magnetic resonance imaging. To understand the tomographic imaging modalities, the student will also gain knowledge of the Fourier Transform and its applications in medical imaging. A basic understanding of the sources of noise and artifacts in the different modalities will also be attained, along with an understanding of the limits to the achievable resolution. The official course description can be found in the Academic Calendar.

Required:

 Stable internet connection

 Laptop or computer

 Working microphone

 Working webcam

Delivery mode:
This course will be delivered completely online. Virtual sessions will be a combination of synchronous (live) and asynchronous (recorded). Students could be expected to complete work prior to attending synchronous sessions. Timetabled sessions could be used for lectures, tutorials, discussions, groupwork, etc. The details below are tentative.

Mode	Dates	Time	Frequency**	Attendance
Virtual synchronous*	M	4 – 5 p.m.	weekly	Yes
Virtual asynchronous	N/A	2 hours	weekly	N/A

*Virtual synchronous sessions will be recorded for later viewing
***The split between synchronous or asynchronous hours is yet to be determined; Synchronous hours will be selected from the following times: Monday 3:30 to 5:30 and Friday 9:30 to 10:30.

Assessments:

Possible assessment types are highlighted in yellow; these are based on previous course offerings and the set learning outcomes. Specific details will be available later.

Weekly quizzes	Participation	Take home tests/exams
Written assignments	Discussion forums	Timed tests/exams
Oral presentations	Groupwork	Proctored tests/exams

Medical Biophysics
MEDBIO 4535A—Hemodynamics

This course overview has been created to communicate expectations for 2020/2021 courses offered by the basic medical science departments to help you plan your semesters. This is a draft and final details will be reflected in the syllabus closer to the start date of the course. Refer to previous course syllabi for learning outcomes.

Instructor: D. Goldman **Email:** dgoldma2@uwo.ca

Course description
The official course description can be found in the Academic Calendar. Instructors may or may not adhere to the Extra Information found in the Academic Calendar in terms of the number of lecture/tutorial/lab hours. See below for more information about course delivery mode and time estimates. These time estimates do not include assessments or independent study.

Required:

 Stable internet connection

 Laptop or computer

 Working microphone

Delivery mode:
This course will be delivered completely online. Virtual sessions will be a combination of synchronous (live) and asynchronous (recorded). Students could be expected to complete work prior to attending sessions. Timetabled sessions could be used for lectures, tutorials, discussions, groupwork, etc. Below are details about the sessions.

Mode	Dates	Time	Frequency**	Attendance
Virtual synchronous*	W	3:30-4:20pm	weekly	Optional
Virtual asynchronous	N/A	1 hour	weekly	N/A

*Virtual synchronous sessions will be recorded for later viewing

Assessments:
Examples of assessments that could be assigned in this course are highlighted in yellow; these examples are based on previous offerings of the course and the learning outcomes that have been set.

Weekly quizzes	Participation	Take home tests/exams
Written assignments	Discussion forums	Timed tests/exams
Oral presentations	Groupwork	Proctored tests/exams
Other:	Other:	Other:

Medical Biophysics

MEDBIO 4700B—Case Studies in Medical Biophysics

This course overview has been created to communicate expectations for 2020/2021 courses offered by the basic medical science departments to help you plan your semesters. This is a draft and final details will be reflected in the syllabus closer to the start date of the course. Refer to previous course syllabi for learning outcomes.

Instructor: Dr. John McGuire **Email:** John.McGuire@schulich.uwo.ca

Course description

The official course description can be found in the Academic Calendar. Instructors may or may not adhere to the Extra Information found in the Academic Calendar in terms of the number of lecture/tutorial/lab hours. See below for more information about course delivery mode and time estimates. These time estimates do not include assessments or independent study.

Required:

 Stable internet connection

 Laptop or computer

 Working microphone

 Working webcam

Delivery mode:

This course will be delivered completely online. Virtual sessions will be a combination of synchronous (live) and asynchronous (recorded; interactive; forum/group chat) modes. Students will be expected to complete work prior to attending sessions. Timetabled sessions could be used for lectures, tutorials, discussions, groupwork, etc. Below are details about the sessions.

Mode	Dates	Time	Frequency**	Attendance
Virtual synchronous*	T//Th	Tuesdays: 9:30 am-10:30 am Thursdays: 9:30 am – 11:30 am	weekly	Yes
Virtual asynchronous	N/A	1 hour	weekly	N/A

* Instructors, and Teaching Assistants may record Virtual synchronous sessions for later viewing either in whole or in part.

**A schedule will be posted with the final version of the course syllabus.

Assessments:

Examples of assessments that could be assigned in this course are highlighted in yellow; these examples are based on previous offerings of the course and the learning outcomes that have been set.

Weekly quizzes	Participation	Take home tests/exams
Written assignments	Discussion forums	Timed tests/exams
Oral presentations	Groupwork	Proctored tests/exams