UZO-435   **Cell Signalling Systems-II**   **Cr. (2)**

Course Contents:
Regulation of cell signaling pathways and their roles in various diseases with special emphasis on cancer (cAMP protein kinase pathway, STAT3 pathway, NF-κB Pathway, MAPK Pathway, PI3k/AKT pathway, wnt/β-catenin Pathway, Intrinsic and Extrinsic apoptosis pathways. Regulation of autophagy and ferroptosisTeaching-Learning Strategies

Teaching will be a combination of class lectures, class discussions, and group work. Short videos /films will be shown on occasion.

Assignments
The sessional work will be a combination of written assignments, class quizzes, presentation, and class participation/attendance.

Assessments and Examination
Sessional Work: 25 marks
Midterm Exam: 35 marks
Final term Exam: 40 marks

Text Book
1. John Hancock, Cell Signalling Ed 3rd, Publisher: Prentice Hall (November 19, 1997), ISBN-10: 0582312671

Books Recommended:
2. Bastien D. Gomperts, Ijsbrand M. Kramer , Peter E.R. Tatham, Signal Transduction, Second Ed., Publisher: Academic Press; 2 Ed. (August 19, 2009), ISBN-10: 0123694418.
3. Friedrich Marks, Cellular Signal Processing: An Introduction to the Molecular Mechanisms of Signal Transduction, Garland Science; 1 Ed. (November 14, 2008), ISBN-10: 0815342152
4. John Nelson, Structure and Function in Cell Signalling. Wiley; 1 Ed. (August 25, 2008), ISBN-10: 0470025514

UZO-436   Cell Signalling Systems-II (Lab.)   **Cr. (1)**

Course Contents:
Identification of apoptosis inducers
 Identification of necrosis inducers
Identification of autophagy inducers
Identification of ferroptosis inducers

Teaching-Learning Strategies

Teaching will be a combination of class lectures, class discussions, and group work. Short videos /films will be shown on occasion.

Assignments
The sessional work will be a combination of written assignments, class quizzes, presentation, and class participation/attendance.

Assessments and Examination
Sessional Work: 25 marks
Midterm Exam: 35 marks
Final term Exam: 40 marks