BSC 589 - Independent Studies (3 credit hrs)
G1P3 and Mitochondrial Redox Regulation
(Sirisha Chakkapalli)

Instructor  
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Course overview:
This course will provide a rigorous foundation in the role of Bcl-2 family proteins on mitochondrial dynamics and how G1P3 protein regulates this process.

Student Learning Outcomes (SLO):
At the completion of this course students will be able to:

1) Collect and analyze critical and seminal information on G1P3.
2) Collect and analyze critical information on mitochondrial redox regulation and regulatory pathways.
3) Determine the effect of G1P3 on mitochondrial ROS and dynamics.
4) Synthesize a working model for G1P3 mediated mitochondrial redox regulation.
5) Write and present an independent study report.

Attendance:
Student will be working under my direct supervision. Students are required to attend all lab meetings (one lab meeting/week) and work at least 12 hours of laboratory work per week. Depending on the experiments they may require to come to the everyday of the week including week ends.

Course Outline/Objectives:

# Actionable Items
1. Literature review of G1P3 and its functions.
2. Literature review of mitochondrial redox regulation and dynamics.
3. Investigate the role of G1P3 on the expression on mitochondrial redox regulation.
4. Investigate the role of G1P3 on ROS and its role on mitochondrial dynamics.
5. Prepare and submit weekly report.
6. Prepare and submit final report in the form of a research proposal.

Reference Materials:
Student is required to collect seminal references on G1P3, Bcl-2 family proteins, and mitochondrial dynamics. Student is also required to use Endnote web the citation software available through Gee library and Libreoffice writer the free and open source word processor.
Exams and Grades:
There would not be any formal lectures for this course. Student is required to come to the lab regularly and accomplish specified goals.

Grading Scheme:
Attendance and Participation 200 Points

Review of literature 150 points

Determine the effect of G1P3 on Bd-2 family proteins 200 points
Determine the effect of G1P3 on mitochondrial dynamics 150 points
Analysis and presentation of results 150 points

Final Report in the form of a mini grant proposal 150 points

Total 1000 points

Grading Scale:
A = 900 to 1000 points (>90%)
B = 800 to 899 points (>80%)
C = 700 to 799 points (>70%)
D = 580 to 679 points (>58%)
F = 579 or fewer (<58%)

Academic Integrity:
A Texas A&M University - Commerce student does not lie, cheat, steal, and does not tolerate those who do. A violation of the Texas A&M honor code and academic integrity involves any of the following offenses: cheating, fabrication, falsification, multiple submissions, plagiarism, and complicity in any of these offenses. The first instance of cheating will result in “ZERO” on the exam and/ or on the assignment. The second instance of cheating will result in “ZERO” on the course. Cheating involves copying information from another student, non-allowable materials or source and plagiarism. Once again, violations of academic integrity will not be tolerated. This class will be conducted in strict observance of the Honor Code. Refer to your Student Handbook for details.

Conduct Policy:
All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. (See Student’s Guide Handbook, Policies and Procedures, Conduct).

Lab behavior:
If handled improperly, some chemicals used in the lab become dangerous. Drinking and eating are PROHIBITED in the lab! Disruptive behavior in lab that could be considered a hazard to another student will result in immediate removal from the lab. Intentionally damaging lab equipment may result in a ZERO for the class and possibly severe financial penalties as many pieces of equipment we will be using are expensive. SEEK HELP If you do not know how to use some instruments (see laboratory syllabus for details)
**Students with Disabilities/Reasonable Accommodation:** The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact: Office of Student Disability Resources and Services
Texas A&M University-Commerce
Gee Library, Room 132
Phone (903) 886-5150 or (903) 886-5835
Fax (903) 468-8148
StudentDisabilityServices@tamu-commerce.edu

**Behavior:** All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment.” (See Student’s Guide Handbook, Policies and Procedures, Conduct).

**Plagiarism:** Plagiarism is a criminal activity. You must cite all sources of information. Unreferenced copying of material, whether parts of sentences, whole sentences, paragraphs, or entire articles can result in a score of zero for your assignment and may result in further disciplinary action.

**Early Intervention for First Year Students:** Early intervention for freshmen is designed to communicate the University’s interest in their success and a willingness to participate fully to help students accomplish their academic objectives. The university through faculty advisors and mentors will assist students who may be experiencing difficulty to focus on improvement and course completion. This process will allow students to be knowledgeable about their academic progress early in the semester and will provide faculty and staff with useful data for assisting students and enhancing retention. Grade reports will be mailed by the end of the sixth week of the semester.