COURSE TITLE BLACKBOARD SITE	**MIS 6143 – IT Infrastructure** ‑Fall 2012 – http://my.ltu.edu and select **CRN 1515**
INSTRUCTOR	**Patrick Mach** Associate Professor **Contact Information** E-mail: machp@macomb.edu Skype:**patrick.mach19** Telephone: 586-445-7006 Office hours by appointment
SCHEDULE	**September 5 – December 15, 2012** Refer to http://www.ltu.edu/registrars_office/calendar_final_exam.index.asp for the last date to withdraw and other important registration related information.
LEVEL/HOURS PREREQUISITE	Graduate level MIS6013 minimum Grade of C- and (Graduate level MIS 5023 minimum Grade of C-; Graduate level MIS 5002 Minimum Grade C- and Graduate Level MIS 5012 Minimum Grade C-)
REQUIRED TEXT (See Blackboard for additional resources)	Betz, Charles T., 2011. **Architecture and Patterns for IT Service Management, Resource Planning, and Governance**: Making Shoes for the Cobbler's Children – Second Edition. Morgan Kaufmann, ISBN 978-0-12-385017-2 Hausman & Cook, 2011. **IT Architecture for Dummies** – Wiley Publishing, Hoboken, NJ www.wiley.com ISBN: 978-0-470-55423-4 Reese, Richard J. 2008. **IT Architecture in Action**. Xlibris Publishing ISBN:978-1-4363-0505-1 (purchase on-line nota available in book store) Additional Materials: Laan, Sjaak, 2011. **IT Infrastructure Architecture** – Infrastructure Building Blocks and Concepts.-First Edition. Lulu Press Inc, ISBN:978-1-4478-8128-5 Available for online purchase through LTU Bookstore at: http://lawrence-tech1.bkstore.com/bkstore/TextbookSelection.do?st=489
ADDITIONAL RESOURCES	LTU Online student resources: http://www.ltu.edu/ltuonline/
TECHNICAL SUPPORT	Technical support for using Blackboard is provided by the Helpdesk, 248.204.2330 or helpdesk@ltu.edu. Send the Help Desk a form detailing any issues by clicking here http://tinyurl.com/3yqrvne.

COURSE SCHEDULE FOR COLLEGE OF MANAGEMENT (GRAD) SEMESTER COURSES

This fully online course begins with a partial week online course orientation period to familiarize yourself with the online learning environment and to meet online or via the phone with your instructor. Each subsequent week starts on a Monday and ends on a Sunday.

Resource Key:

APIT – Architecture & Patterns for IT – Service Management, Resource Planning, and Governance – Betz
ITAD – IT Architecture for Dummies – Hausman/Cook
ITAA – IT Architecture in Action – Reese
ITIA – IT Infrastructure Architecture - Laan

Dates	Modules	Topics / Readings	Assignments Due
Prior to Semester Start and Sep 5 – Sep 9	Module 0	Overview of textbooks Online Learning Orientation Course Orientation	Course orientation Instructor conversation Individual pre-assessment
Week of Sep 10–Sep 16	Module 1 (note: more than one module may be scheduled in a week)	Course Overview of Infrastructure. Defining IT Infrastructure and the IT Model APIT Chapter 1 ITIA – Chapter 1-5 (note: more than one chapter may be scheduled in a module)	Pre-Class Conceptual Quiz #1 Introductions in Blackboard
Week of Sep 17–Sep 23	Module 2	Architecture Approach to IT • ITAA – Chapters 1-2 • APIT – Chapters 2	Conceptual Quiz #2 –
Week of Sep 24 – Sep 30	Module 3	Architecture Approach to IT (cont) • APIT – Chapters 2	Conceptual Quiz #3 Individual consultation #1- *Wimbra*
Week of Oct 1 – Oct 7	Module 4	Data Centers – Business Continuity/Disaster recovery • ITAD – Chapter 18 • ITIA – Chapter 6	Conceptual Quiz #4 Blackboard Discussion on Individual Consultation #1
Week of Oct 8 – Oct 14	Module 5	Networks & Storage – Topologies & Securities – JBOD, RAID, iSCSI, SANs, Server Virtualization • ITAD – Chapter 13 • ITAA – Chapter 7 • ITIA – Chapter 8-10	Conceptual Quiz #5 Group Consultation #1 - *Wimbra*
Week of Oct 15 – Oct 21	Module 6	Platform Architecture • ITAA – Chapter 8 • ITIA – Chapter 11	Conceptual Quiz #6 Blackboard Discussion on Group Consultation #1
Week of Oct 22 – Oct 28	Module 7		**Mid Term Examination**

Week of Oct 29 – Nov 4	Module 8	Patterns for the IT Processes • APIT Chapter 3 Operating Systems – Architecture, VDI, Security • ITAD – Chapter 17-18 • ITIA – Chapter 5	Conceptual Quiz #7 Individual Consultation #2 - *Wimbra*
Week of Nov 5 – Nov 11	Module 9	Application Layer Middleware – SOA, Libraries COBIT, ITIL • ITAD - Chapter 10 • ITAA – Chapter 9-10	Conceptual Quiz #8 Blackboard Discussion on Individual Consultation #2
Week of Nov 12 – Nov 18	Module 10	Patterns for the IT Lifecycles • APIT Chapter 4	Conceptual Quiz #9 Group Consultation #2 - *Wimbra*
Week of Nov 19 – Nov 25	Module 11	Database Management/Enterprise Applications • ITAA - Chapter ## **Light Week – Thanksgiving Break**	Blackboard Discussion on Group Consultation #2 Peer Review – Part 1
Week of Nov 26 – Dec 2	Module 12	Mobile Devices/Future Technologies – Review • ITAD – Chapter 12	Conceptual Quiz #10 Peer Review – Part 2
Week of Dec 3 – Dec 9	Module 13	Final Thoughts on IT Architectures – • ITAA - Chapter 12	Blackboard Reflective on Peer Review Reflective Consolidation
Week of Dec 10 – Dec 15	Final Exams	Course Summary End of Course	Final Exam

STUDENT EVALUATION

The course has **17** assignments/assessments totaling **675** points. Letter grades are awarded based on the total number of points achieved. Points are deducted for late assignments.

Assignments	Percentage	Points

Individual Consultation (2)
      Consultation -30 pts ea.
      BB Review – 10 pts. ea.
	12%	80

Group Consultations (2)
      Consultation -50 pts ea.
      BB Review – 10 pts. ea.
	18%	120

Quizzes (10-Concepts)	15%	100
Mid-term Exam	15%	100
Peer Review	7.5%	50
Reflective Consolidation	7.5%	50
Final Exam	15%	100
Online Participation	10%	75
Total Points	**100%**	**675**

Class Points	Letter Grade
96 and above	A
90 – 95	A-
87 – 89	B+
83 – 86	B
80 – 82	B-
77 – 79	C+
73 – 76	C
70 – 72	C-
61 – 70	D (Undergrad Only)
60 and below	E

Note: Grades lower than a "B" fall below the LTU graduate standard

EDUCATIONAL GOALS
This course covers telecommunications fundamentals including data, voice, image, and video. In particular the course covers the concepts, models, architectures, protocols, standards, and security for the design, implementation, and management of digital networks. It also covers server architectures, server farms, cluster computing, grid computing, storage area networks and network attached storage, Data center design and implementation. The course provides a process-oriented view of the development of an integrated technical architecture (hardware, software, networks, and data) to serve organizational needs in a rapidly changing competitive and technological environment, including statistical procedures to help forecast capacity requirements. It also overviews network, data and application architectures in the enterprise. 3.000 Credit hours 3.000 Lecture hours

STUDENT LEARNING OBJECTIVES / OUTCOMES
A student who successfully completes the course should have attained:
1.   Ability to evaluate and assess proposed technology infrastructure components for an organization through structured evaluation and proven methodologies.
2.   Demonstrated proficiency to design, plan, implement and evaluate selected infrastructure projects for the purpose of corporate sustainability and competitive advantage.
3.   Comprehensive analysis of the IT Lifecycle, processes, functions and application of interdependent relationships.

PREREQUISITE SKILLS
Familiarity and practice with developing and building a formal APA formatted document is required. Research methods covered in the prior prerequisites will also be utilized throughout the course. It is understood that the student has demonstrated proficiency in writing and speaking in English standards. See the College of Management standards for more information.

INSTRUCTIONAL METHODS AND COURSE ORGANIZATION
Students are required to have fully read the material and chapter assignments prior to class meetings. A majority of class time will be used for application of the concepts presented in the assigned chapter along with individual/group practical performance-based on the material. Applications include group case scenarios, individual/group case studies, peer reviews, evaluative consultations, assigned problems, projects, and related activities. It is essential that all participants contribute to the learning objectives through their experiences and working knowledge of organizational and information systems practices.

Blackboard Learning Environment – Blackboard at my.ltu.edu contains the syllabus, all assignments, reading materials, streaming videos, narrated PowerPoint mini-lectures, podcasts, written lecture notes, chapter quizzes, links to Web resources, and discussion forums. You will submit all assignments via Blackboard, and are expected to participate regularly in discussion topics. Please take time to familiarize yourself with the organization of the Blackboard site. You will want to check the site frequently for announcements reminding you of new resources and upcoming assignments.

Student/Instructor Conversations – Students keep in touch with the instructor via e-mail messages, telephone conference calls, and IM conversations.

Self-Assessments – Pre- assessment tools will help students measure their entering skills and progress during the course.

Required Reading – Textbook chapters should be read according to the schedule outlined in the syllabus. Chapters will be discussed online.

Web Site – An associated web site at http://www.erp4it.com includes materials, case studies, application exercises, and practice quizzes. You should make use of as many of these resources as you need to be successful.

Assignments –

Individual & Group Consultations In-depth study and application of a particular segment or practice within IT architecture and infrastructure designed to demonstrate proficiency in setting the best-practice guidelines, analyzing internal resources along with external factors in order to make an informed recommendation based on research of current application in the enterprise. Group Consultations vary that subject matter may have several components which then can be distributed and then combined to deliver an aggregate solution to meet a firm's requirements.

Peer Review Students will prepare a formal research review on a current technology and how it is being integrated into the global enterprise. They will have several specified criteria that will complete the formal analysis. Students will formulate 3 questions based on their research, and then provide access to their research to another student in class who will evaluate and augment the research with their own findings. The reviewer will then address the questions posed by the author and return the revised paper with responses to the author. These will then be posted to the appropriate Blackboard discussion forum for class review and discussion.

Reflective Consolidation Prepare an 8-10 page (double-spaced), minimum, reflective consolidation paper based on your key concepts and principles learned from this course, and how this learning may add value to your future learning or professional objectives. Your paper will be evaluated to a maximum of 50 points based on the depth of your assessment, your linkage to course content, and your overall organization and writing quality. I recommend connecting with 6 or more IT concepts, approaches and methodologies. One should expect to write a minimum of 1-2 pages per concept or principle…taking notes throughout the course will make this easier for you.

CLASS POLICIES AND EXPECTATIONS

I plan to offer you a valuable learning experience, and expect us to work together to achieve this goal. Here are some general expectations regarding this course:

Each student has a LTU email account. If you wish to use a different email address for this course, please **change your email address in Blackboard under "Blackboard Tools", then "Personal Information"** and send an email to me to store your email address in my directory.

Readings, discussion forum participation, and written assignments must be completed according to the class schedule. It is important to contact the instructor as needed to discuss personal needs regarding course requirements and assignments.

It is essential that all students actively contribute to the course objectives through their experiences and working knowledge.

All assignments must be submitted on schedule, via Blackboard, and using Microsoft Office compatible software. If you need to submit an assignment via email, contact the instructor in advance.

Assignments must be completed to an adequate standard to obtain a passing grade. Requirements for each assignment are detailed in this syllabus.

Be prepared to log into Blackboard at least once each day. Please focus your online correspondence within the appropriate Blackboard discussion forums so that your colleagues can learn from you.

At midterm and at the end of the course, you will be invited to participate in a University evaluation of this course. Your feedback is important to the University, to LTU Online, and to me as an instructor, and I encourage you to participate in the evaluation process.

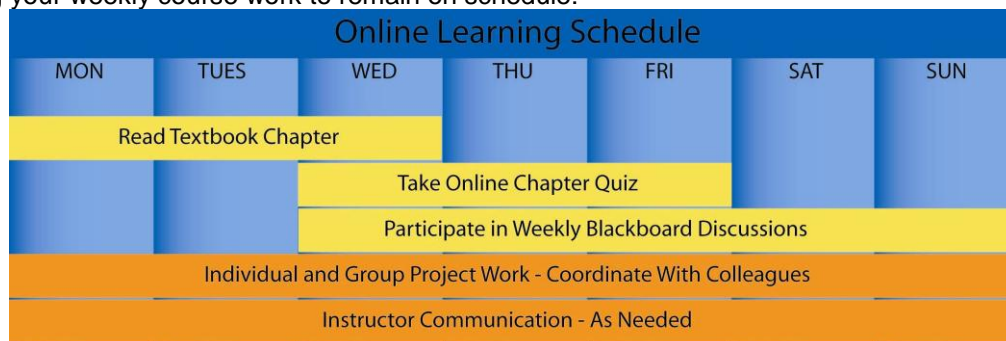It is important for you as students to know what to expect from me as your instructor:
- I will be available to you via e-mail and phone, and will promptly reply to your messages.
- I will be available to you for face-to-face appointments as requested.
- I will maintain the Blackboard web site with current materials, and will resolve any content-related problems promptly as they are reported to me.
- I will send out a weekly e-mail update to all class members to guide upcoming work and remind you of assignment due dates.
- I will return all assignments to you promptly, and will include individualized comments and suggestions with each assignment.
- I will hold our personal written or verbal communications in confidence. I will not post any of your assignments for viewing by the class without requesting your approval in advance.
- I will treat all members of the class fairly, and will do my best to accommodate individual learning styles and special needs.
- If any of these points need clarification, or should special circumstances arise that require my assistance, please contact me so that we may discuss and resolve the matter.

PRACTICAL GUIDELINES FOR CLASS LOAD EXPECTATIONS

A three-credit course generally requires at least nine hours per week of time commitment. Here are some practical guidelines to help schedule your time commitments for this online course:

- A 13-week semester (the summer semester is compressed into 10 weeks) would require at least 126 hours of time commitment to successfully complete all readings, activities, assignments, and texts as described in this syllabus.
- You should reserve at least 6 hours per week to read the required textbook chapters and resources, participate in online discussions, review presentation materials, and work through online quizzes. This effort will total at least 84 hours over the course of the semester.
- You should organize your remaining time to roughly correspond with the point value of each major assignment. This means that you should plan to spend at least:
  - 8-9 hours preparing your case study review;
  - 24-40 hours working with your group on the three parts of your semester-long project;
  - 8-9 hours working on the various components of your reflective consolidation (final exam).

These guidelines may not reflect the actual amount of outside time that you – as a unique individual with your own learning style – will need to complete the course requirements. The number of hours each week will vary based on assignment due dates, so please plan ahead to insure that you schedule your academic, work, and personal time effectively. The following graphic may be used to guide you in planning your weekly course work to remain on schedule:

ASSIGNMENT DETAILS

Course assignments and evaluation criteria are detailed below. Please review these requirements carefully. See the section Academic Resources / Assessment Guidelines for information about assessment of written and oral presentations.

Details for all assignments are shown below. Please note that you should not submit any assignments to the Blackboard "Digital Drop Box." All assignments are submitted using the Blackboard "Assignments" or "SafeAssign" function. Some assignments are also posted to the Blackboard Discussion Forum for student comments.

Individual Consultation #1 (40 Points)

Overview – Identify the strategic model and product/service lifecycle requirements for an existing organization for a major corporation/organization. Discuss which of the 4 lifecycles is being applied. Identify the value streams will be realized upon a successful outcome. Identify any models used by the organization, or what plan of action they used if they were the first to implement this IT service/product. Discuss the architectural approach as listed in page 66 in the Architecture and Patterns for IT (Betz) text. Points will be awarded based on the ability of the student to incorporate IT function, service, process and management definitions, along with value stream initiative correlating to the Lean principle(s). Definition of relationships of process and flow models should be depicted by flowchart diagrams. Inter-relational dependencies external to the corporation should also be denoted, and clearly identified.

Proposal – If students need to propose a specific topic or approach, outline how the proposal is made in this section.

Deliverables and Evaluation – A maximum 7-slide PowerPoint presentation which student will present utilizing the Blackboard *Wimbra* tool for the class. It must satisfy all the requirements of the objective(s) as listed. The presentation will be submitted to Blackboard. Proper references and citations must be included on the Conclusion slide. The presentation cannot exceed 7 slides.

Student's work will be evaluated as follows:

    IT Content, Correlation, Application – up to 12 pts
    Presentation Layout & Delivery– 5 points
    Organization and overall writing quality – 5 points
    Research & Investigation - Usage of at least three citations from trade, academic journals – 7 pts
    Use of APA citation formatting – 1 point
    Your Blackboard discussion forum posting and response to questions (up to 10 points- see below)
        Posting your critique and a brief "executive summary" – 5 point
        Posting one or two focused questions for follow-up discussion – 2 point
        Responses to questions from class members – 3 points

Extra Credit will be awarded to student that is able to incorporate a comprehensive and full completed matrix as detailed in pages 138-148 (Betz) - 10 pts.

Individual Consultation #2 (40 Points)

Overview – Objective: Further exploration into the 9 Major Patterns for IT Processes:

    Accept Demand
    Execute Project
    Deliver Release
    Complete Change
    Fulfill Service Request
    Deliver Transactional Service
    Restore Service
    Improve Service
    Retire Service

Each student will be randomly assigned one of the IT Processes to deliver a presentation to the class utilizing the Wimbra tool in BlackBoard prior to the next session, which will show assimilation of ideas and concepts along with the ability to correlate major patterns to current day IT operations/initiatives.. 5-7 slideshow presentation with current industry reference, IT Process Models, and recommendation of Kaizen Lean practices that are derived through adherence to policies/procedures.

Deliverables and Evaluation – A maximum 7-slide PowerPoint presentation which student will present utilizing the Blackboard *Wimbra* tool for the class. It must satisfy all the requirements of the objective(s) as listed. The presentation will be submitted to Blackboard utilizing the Wimbra tool. Proper references and citations must be included on the Conclusion slide. The presentation cannot exceed 7 slides. Student's work will be evaluated as follows:

    IT Content, Correlation, Application – up to 12 pts
    Presentation Layout & Delivery– 5 points
    Organization and overall writing quality – 5 points
    Research & Investigation - Usage of at least three citations from trade, academic journals – 7 pts
    Use of APA citation formatting – 1 point
    Your Blackboard discussion forum posting and response to questions (up to 10 points- see below)
        Posting your critique and a brief "executive summary" – 5 point
        Posting one or two focused questions for follow-up discussion – 2 point
        Responses to questions from class members – 3 points

Group Consultations #1 & #2 (50 Points each)

Overview – For the initial group assignment member groups of 3-4 students will choose a familiar organization or group and are tasked with designing a RFP (Request for Proposal)/RFQ (Request for Quote) to build **Data Center Operations** with power/data redundancy based on organizational requirements. For the second group assignment following the same group structure as mentioned, groups will investigate **SOA** (Service-Oriented Architecture) and apply that to a chosen company/organization. Students will identify SOA and what the benefits are to organizations. Identify key issues from either a corporate/organizational. What TOOLS (Hardware/Software) are "enablers" to adopting SOA in the Enterprise? Demonstrate and correlate SOA Process Flows. Best Practices & Recommendations. Minimum of 3 COM acceptable references with APA citations.

Proposal – Students will propose the company/organization selection via the associated Blackboard forum. Selections are offered on a first-posted basis, and duplicates will not be accepted without instructor approval.

Deliverables and Evaluation – A maximum 7-slide PowerPoint presentation which student will present utilizing the Blackboard *Wimbra* tool for the class. It must satisfy all the requirements of the objective(s) as listed. The presentation will be submitted to Blackboard. Proper references and citations must be included on the Conclusion slide. The presentation cannot exceed 7 slides.
Student's work will be evaluated as follows:

    IT Content, Correlation, Application – up to 15 points
    Collaboration/Synthesis – up to 10 points
    Presentation Layout & Delivery– 5 points
    Organization and overall writing quality – 5 points
    Research & Investigation - Usage of at least three citations from trade, academic journals – 4 pts.
    Use of APA citation formatting – 1 point
    Your Blackboard discussion forum posting and response to questions (up to 10 points- see below)
        Posting your critique and a brief "executive summary" – 5 point
        Posting one or two focused questions for follow-up discussion – 2 point
        Responses to questions from class members – 3 points

Peer Review (50 Points)

Overview – This last assignment has you building a peer review document in Google docs or other collaborative applications that can be shared out, reviewed and edited. The subject is one you will find engaging and diverse.

Evolution of Mobile Devices/Future Technologies and the impact on IT Infrastructure.

Part 1 (30 points) - You will select a specific item within the constructs of the given topic to research. Prior to your research you must state a hypothesis stating why you chose to do a review of the technology and what you perceive the value of the technology and whether or not it will increase/decrease in the next 5, 10 years along with impact to end-users.

Gather 5 accredited resources (see IT References pdf in the Course Documents folder) to build information to present in the document that should have no less than 5 sections that depict:

Description & History of the Technology
Current Capabilities and Major Providers
Major benefits of using the Technology
Enterprise capabilities needed to implement the technology
Integration with other Enterprise Application Systems
BEST PRACTICES (Lean) for implementation and operation
Security and Operational Risks
Likely Future Evolution of the Technology

Finally, pose 3 questions to your PEER that will review your topic on information that was not revealed in your research that you would like further information.

Part 2 (20 points) - You will be randomly assigned another classmate and will review their mobile technology paper and impact on IT infrastructure. You will be tasked with finding additional articles/research outside the originators that either support/contrast the findings that were presented. You will add these statements to each section of the Google Doc, citing the proper references and adding your own personal opinion/reflection for each section presented. The idea here is not to challenge for the sake of challenging but to augment and propose new findings and considerations that build a more complete picture.

Deliverables and Evaluation –

Part 1 – Upload an APA professional technology review to include the following:
-   Hypothesis and rationale for chosen technology – 5 points
-   Technology Analysis - 5 researched and developed criteria shown above – 20 points
-   Organization, Writing Mechanics – 5 points

Part 2 -Upload the following:
-   Completion of the Google Doc with the critique and developed responses to the originator's 3 questions. Reference citation is required - 15 pts
-   Scoring Rubric with Comments - 5 pts

Reflective Consolidation (50 points)

Overview – A reflective consolidation covering the course content, and consisting of two components:

1. You will be asked to make an "opening statement" and to discuss yours and other students' statements within a set of structured discussions – held within a Blackboard discussion forum
2. You will asked to provide a 8-10 page paper based on the key concepts and principles learned from this course, and how this learning may add value to your future learning or professional objectives.

Deliverables and Evaluation – Your opening statement and reflective consolidation will be evaluated based on the depth of your assessment, your linkage to course content, and your overall organization and writing quality.

Your Opening Statement - Blackboard discussion forum posting and response to questions (up to 10 points- see below)
    Posting your critique and a brief "executive summary" – 5 point
    Posting one or two focused questions for follow-up discussion – 2 point
    Responses to questions from class members – 3 points

Reflective paper 8-10 pages that demonstrates proficiency that the students:
    Successfully identified 5 or more major concepts with relation to best practice approaches in adopting IT infrastructure methodologies and approaches. - 20 points
    Organization – writing mechanics (spelling/grammar) – 5 points
    Several cited references made back to text and other accredited resources provided. - 5 points
    Student provided informative feedback on individual/group consultations and online class experience and its effects on successfully achieving course outcomes along with recommendations. – 10 points.

Online Participation (75 points)

Each student is expected to actively participate in online activities. Class participation is evaluated to a maximum of 75 points based on:

Reading the required text chapters and working through the online practice quizzes according to the class schedule; and actively participating in Blackboard discussion forums, responding to questions posted by the instructor, and interacting positively with other students.

SYLLABUS ADDENDA

Please see the LTU Online "Current Students" web site http://www.ltu.edu/ltuonline/ for comprehensive information about Lawrence Tech's academic services, library services, student services, and academic integrity standards. The content of this web site is explicitly included in these syllabus requirements.

The LTU Online "Current Students" web site also includes grading rubrics used by your instructor to evaluate written assignments, discussion forum participation, and group assignments. Please note that the SafeAssign anti-plagiarism product will be used for written assignments submitted for this course. Please see the instructions included on the eHelp web site regarding the use of the SafeAssign product.

Undergraduates: Leadership Transcripts

The leadership transcript enables students to track co-curricular activities that are undertaken above and beyond the requirements of the LTU curriculum. The leadership transcript serves students by enhancing the leadership portfolio; providing the opportunity for a transcript of distinction; enhancing their resumes; and assisting in articulating leadership experience. It can be accessed by logging on to Banner Web and clicking the Student and Financial Aid tab. Leadership Activities is located at the bottom of the list. More information is available at http://www.ltu.edu/leadership.