# PRELIMINARY COURSE SCHEDULE AND ACTIVITIES

<table>
<thead>
<tr>
<th>DATE</th>
<th>TOPIC IN CLASS</th>
<th>WHAT IS DUE</th>
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</table>
| 8/18   | Syllabus, Course Outline, Course requirements, **Chapter 1**: Intro to business Analytics and Excel | Read Chapter 1  
First week survey and short essay                                                           |
| 8/23   | **Chapter 2, 3** examples, Excel functions, Descriptive Analytics, Visualizing data Class Practice | Review Excel functions in Chapter 2  
Read Chapter 3, Review course material in Canvas                                                 |
| 8/25   | **Chapter 4**: Descriptive Statistical Measures Measures of Location, Dispersion and Shape; Measures of Association Class practice | Complete first week survey and short essay  
Read / Review Chapter 4 and online course material in Canvas                                     |
<p>| 8/30   | <strong>Chapter 5</strong>: Discrete and Continuous Probability Distributions; Random Sampling Class practice | Read / review Chapter 5 and course material in Canvas                                           |
| 9/1    | Problem/Computer Assignment 1 Review Possible Guest Speaker(s) from Hertz       | <strong>Submit Problem/Computer Assignment 1, see Canvas.</strong>                                         |
| 9/6    | <strong>Chapter 6A</strong>: Sampling and estimation Estimating population parameters; Sampling error (margin of error) Class practice | Read/ Review Chapter 6                                                                       |
| 9/8    | <strong>Chapter 6B</strong>: Confidence interval for decision making Class practice          | <strong>Submit Term Project Milestone 0- Proposal, See Canvas for the outline</strong>                      |
| 9/13   | Exam 1 Review                                                                  | <strong>Submit Problem/Computer Assignment 2 Complete online Quiz 1 (Canvas) by 09/14, 11:59 pm</strong>  |
| 9/15   | EXAM 1 (Chapters 2,3,4,5,6)                                                    |                                                                                               |
| 9/20   | <strong>Chapter 7A</strong>: Statistical inference Hypothesis Testing – One Way test Class Practice | Read and Review Chapter 7 One sample testing                                                   |
| 9/22   | Exam 1 Return                                                                  | Read and Review Chapter 7 Two sample testing                                                   |
| 9/27   | <strong>Chapter 7B</strong>: Statistical Inference Hypothesis Testing: Two Sample Testing Class Practice | Read and Review Chapter 7 ANOVA; Chi-Square Test                                               |</p>
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<tr>
<th>DATE</th>
<th>TOPIC IN CLASS</th>
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<tbody>
<tr>
<td>9/29</td>
<td>Problem/Computer Assignment 3 in Class Milestone 1 brief team presentations</td>
<td>Submit Term Project Milestone 1</td>
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<tr>
<td>10/04</td>
<td>Predictive Analytics: Chapter 8A: Trendlines and Regression Analysis, Simple Regression Analysis Class Practice</td>
<td>Read and Review Chapter 8 course material</td>
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<tr>
<td>10/06</td>
<td>Chapter 8B: Multiple Regression analysis/Regression with Categorical Variables Class Practice</td>
<td>Review Chapter 8 Multiple Regression examples</td>
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<tr>
<td>10/11</td>
<td>Problem/Computer Assignment 4 in class</td>
<td>Submit Problem/Computer Assignment 4</td>
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<tr>
<td>10/13</td>
<td>Chapter 9A: Forecasting Techniques; Qualitative and Judgmental Forecasting Class Practice</td>
<td>Read/Review Chapter 9 material</td>
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<tr>
<td>10/18</td>
<td>Chapter 9B: Forecasting Models for Time Series Class Practice</td>
<td>Read/Review Chapter 9 material</td>
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<tr>
<td>10/20</td>
<td>Chapter 9C: Measures of Forecasting Accuracy Class Practice</td>
<td>Read/Review Chapter 9 material</td>
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<tr>
<td>10/25</td>
<td>Problem/Computer Assignment 5 in class Exam 2 Review</td>
<td>Submit Problem/Computer Assignment 5 Complete online Quiz 2 (Canvas) by 10/26, 11:59 pm</td>
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<tr>
<td>10/27</td>
<td>EXAM 2 (Chapters 7, 8, 9)</td>
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<tr>
<td>11/01</td>
<td>Chapter 11A: Spreadsheet Modeling And Analysis: Spreadsheet applications</td>
<td>Read/Review Chapter 11 material</td>
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<td>11/03</td>
<td>Chapter 11B: Excel applications Class practice Exam 2 Return</td>
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<tr>
<td>11/08</td>
<td>Chap 12 Simulation and Risk Analysis Review of Random Variables</td>
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<tr>
<td>11/10</td>
<td>Chapter 12 continues: Spreadsheet Models with Random Variables Monte Carlo Simulation Using Risk Solver Class Practice</td>
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<tr>
<td>11/15</td>
<td>Chapter 10: Introduction to data mining The Scope of Data Mining;Cluster analysis Classification Techniques Class Practice</td>
<td>Read / review Chapter 12 Material</td>
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<tr>
<td>11/17</td>
<td>Chapter 10: Introduction to data mining continues Problem/Computer Assignment 6 in class</td>
<td>Submit Problem/Computer Assignment 6</td>
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<tr>
<td>11/22</td>
<td>Brief Team Presentations</td>
<td>Submit Term Project Milestone 2</td>
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<tr>
<td>11/24</td>
<td>THANKSGIVING BREAK</td>
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<tr>
<td>11/29</td>
<td>Exam 3 Review</td>
<td>Complete online Quiz 3 (Canvas) by 11/30, 11:59 pm Submit (optional) Milestone 3</td>
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<tr>
<td>12/01</td>
<td>EXAM 3 (Chapters 10,11,12)</td>
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<tr>
<td>12/08</td>
<td>Term Project Final Presentation and Report , 7:30 am (may be subject to change)</td>
<td>Submit Project Files Mandatory presentation</td>
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Note: Dr. Yazici reserves the right to change parts of this syllabus throughout the semester w/ notification
**About the Course:** The course provides you with the fundamental concepts and tools needed to understand the emerging role of business analytics in organizations and shows how to apply basic business analytics tools in a spreadsheet environment, and how to communicate with analytics professionals to effectively use and interpret analytic models and results for making better business decision. The course covers descriptive/inferential analytics, such as descriptive statistics, visualizing data, probability distributions, sampling, and hypothesis testing; predictive analytics, such as regression analysis, forecasting, data mining, monte carlo simulation and risk analysis. Emphasis is on applications, concepts and interpretation of results, rather than theory and calculations. Students use a computer software package for data analysis.

*In today’s fast evolving, global business world, decisions made using analytics will prevail while decisions made by intuition, feeling and little or no information will fail* - Yazici, H.

This is a **scholarly-enriched course** which has been designed to teach specific course content, which will include the production of scholarly work that utilizes writing, critical thinking, and information literacy. This means these 3 skills are emphasized in this course, and they will be assessed throughout the semester, specifically by the course project assignment.

**Learning Objectives**

- Define and explain key business analytics terms
- Select appropriate models and techniques and tools for specific business decision
- Given data, apply appropriate analytical tools in the analysis of quantitative and qualitative data from a variety of business scenarios.
- Use software for data analysis and interpretation through graphs, tables, and numerical output
- Enhance problems solving and **critical thinking skills** by learning how to approach problems, analyze data and interpret analysis results
- Enhance verbal and written communication skills, ability to express and report in fair, objective and unbiased manner

**Course Modules:**

**Module 1: Descriptive Analytics (Chapters 1,2,3,4,5,6,7)**
Visualizing data; Numerical measures of Location, Dispersion, Shape, and Association
Probability Distributions and Data Modeling
Sampling and Estimation
Hypothesis Testing

**Module 2: Predictive Analytics (Chapters 8, 9, 10, 11, 12)**
Trendlines and Regression Analysis
Forecasting Techniques
Spreadsheet Modeling and Analysis
Mont Carlo Risk Simulation
Introduction to Data Mining
Class Format, Policies, and Student Participation:

This course involves "learning by doing" applications of Business Analytics concepts in the business world through course assignments and projects. Attendance at all classes is expected and participation is graded. Organize your professional and personal affairs to allow for attendance at every class session. You are responsible for all announcements and assignments made in class by your instructor. Poor attendance is correlated with lower performance in the course and a class attendance sign-up sheet is used. So it is of your interest to attend all classes. Take good notes and participate to all hands-on class practices. Classes meet twice each week for 75 minutes. The class policies are as follows:

- You are expected to have completed the assigned reading for the day.
- Assignments are individual effort. You may be asked to work in teams, but each team member needs to contribute and understand the course material
- Your professionalism, integrity, and academic success are at stake if you fail to submit work on time.
- Keep cell phones turned off (or on silent) when in class and do not use computers in the lab for navigating the internet or downloading emails. Computers and the printer can only be used for class practices and in class computer assignments as specified by the Instructor.
- Regular communication: Check your email and CANVAS regularly
- Be aware of course withdrawal deadlines

Required Course Material:

**Textbook**: Business Analytics by James R. Evans, 2nd edition, Publisher: Pearson

**Software**: Microsoft Excel and Frontline System's Risk Solver Platform and XLMiner (student version)

Instruction in CANVAS to download and install the software

Data files used in course (free). Access the textbook companion website to download files at: http://wps.prenhall.com/bp_evans_bus_2/

**PREREQUISITES**: STAT 2023, Microsoft Excel skills, willingness to learn, participate and produce.

Assignments and Projects:

This course involves "learning by doing" applications of Business Analytics concepts in the business world through course assignments and a course project. If you would like feedback on a draft of your assignments, you can request a review before the due date.

You are responsible for 6 assignments, some of these assignments are completed in class. Assignment 1 is about the role of data/big data. Check Canvas for this first week assignment:
The remaining assignments involve analysis of problems and/or cases from the textbook (see the Schedule for due dates). The course project is a comprehensive term project with 3 milestones. The analysis for all assignments/project will be done using Microsoft Excel with the assistance of Frontline Systems' Risk Solver Platform and XLMiner. NO LATE ASSIGNMENT WILL BE ACCEPTED. It is your responsibility to submit the document on or before the due date.

Our computer lab has the required software for class instruction but, to complete assignments, you may need a personal copy installed in your personal computer which can be downloaded from Frontline Systems website. See required Course Material on Canvas.

Exams
There will be 3 exams. The exams are based on the assignments, related chapters and materials covered in class lectures.

NO MAKEUP EXAMS will be given. Only the following reasons will be considered if you miss an exam: armed services requirement, extreme health situation, and death. You may be asked to take a comprehensive exam as a make up exam. Any exam that is missed without appropriate documentation will automatically receive a score of zero.

INSTRUCTOR SPECIFIC COURSE REQUIREMENTS:

TEACHING PHILOSOPHY

Constructivist teaching and Collaborative learning w/ structure: Learners construct knowledge. All learning is active. Under constructivist approach, students are assisted to structure and revise what they know. Students are engaged in sense-making knowledge activities. Quality of student understanding is valued versus quantity, such as not "how much students remember" but "what and how students retain and use" is criteria of understanding and learning.

Instructional Strategies /Methods:

- Hands-on applications via class exercises and computer-based practices: teach the key points, doing by example, spreadsheet applications
- Collaborative exercises allowing group work in class, and outside the classroom with guidance: group case presentations, term project, group assignments
- Real life examples and practical applications via articles, your instructor's own work experience, guest speakers from the field, or videos as they apply
- Independent learning and skill development exercises such as term project to frame a business problem, collect data, analyze data, interpret the findings, and make recommendations or decisions.

COURSE REQUIREMENTS AND GRADING:

1. a. READ Assigned portions of the textbook and assigned articles. Review lecture slides.

For full awareness and successful learning, this course requires reading outside the classroom. Failure to read assigned text may easily result in frustration and delay in your progress.

1-b. CHECKING YOUR E-MAIL (reminders, warnings, questions/answers, announcements from me are sent to you by e-mail from Angel thru a list serv.)

2. USE of CANVAS is required for this course
- Take on-line surveys- Take “Getting to Know you” and Thinking Styles surveys
- Download / upload computer assignments and term project files
- Access course slides and handouts
- Read announcements
- Check your grade and see your progress
- Send e-mail to your peers and your Instructor while on the web

3. ATTENDANCE and PARTICIPATION Individual (10 points, 5%):  

ATTENDANCE:

This course contains numerous in-class activities that help your understanding of the course material. Your class attendance is of the utmost importance. The expectation is that you will attend every class.

Late arrivals to class, as well as early departures from class are not accepted. Three or more late arrivals/early departures to/from class are equivalent to one unexcused absence. Some absences related to documented illness and family emergencies may be considered excused. For work related excuses, you need to provide a note from the employer stating the urgency of the situation that results in your absence. 3 or more unexcused absences are penalized (deduction from participation points).

PARTICIPATION:

Almost every class, we will have a Class practice. You will be asked to submit a selected number of in class Excel or problem work activities. These are individual submissions. You will earn points for each submission adding up to 10 points. If you had an excused absence, you can earn partial/half credit if you submit the participation assignment for the next class time. Otherwise no participation point is assigned.

4. PROBLEM / COMPUTER ASSIGNMENTS (Individual/ Group, 60 points, 15%):

These problems are essential for the learning of statistical concepts and methods. It is useful to solve as many textbook problems as you can. You are required to submit your solutions for the problems assigned as indicated in the course schedule on the due date.

Most of these problems have an Excel data set. If you are using Excel formulations, submit an Excel file with your answers by uploading your file into a Drop box prepared for each problem assignment in Canvas. If the problem is solved manually, submit your hand written solutions.

**Requirement for problem assignments:** Deadlines are strictly followed. These assignments are reviewed and collected at the beginning of the class period (manual). For any assignment submitted at the end of class period, or after class, 5% is deducted. For each late day submission within a week, your grade is reduced by a Full letter grade for each day of delay. ASSIGNMENTS SUBMITTED AFTER ONE WEEK, ARE NOT GRADED. **Note:** if you had an illness related excused absence, you may be allowed to submit late with lesser penalty. You need to contact your instructor as soon as possible.
ASSIGNMENTS CAN BE SUBMITTED EARLY if a student cannot be present at the due date due to uncontrollable circumstances, such as a business trip or a required extra-curricular activity that cannot be re-scheduled.

Please address your questions about the problems PRIOR to the due date. The problems are reviewed in class at the due date. You need to correct your Excel solutions before submitting.

The assignments should show the contributors’ names if submitted as a group.

**Grading:** Points are taken off for wrong, incomplete, illegible or very short solutions. Your solution should not only show the answer to the problem, but all the steps to solve it. If solved in Excel, cells should contain formulas or functions. Note that Excel is not a word processor. Word can only be used to answer the interpretation questions.

5. **TERM PROJECT – Individual and Group, 60 with Optional 10 points, 15%**

Final Business Analytics Project consists of problem identification, data collection and (statistical) analysis of the data to improve an existing real business process, to make sales and financial predictions, or analyze an economical or public policy problem, or sports management or health related problem.

**Ground rules:**

- The team can consist of two or three members
- The team decides for their topic or selects among provided by the Instructor.
- The team collects data for the project: any business or government sector, profit or non-profit organization can be contacted.
- The project must employ a computer based statistical analysis, simulation and interpretation. Excel and Solver/XL Miner packages are used. The team should follow the project guidelines provided by Dr. Yazici.
- Teams are required to receive Dr. Yazici’s approval of their project by submitting their proposal.
- Team members need to attend the term project sessions and present their project.
- Some parts of the Milestone 1 and 2 will be submitted by each team member individually.
- Discussion Forums are designed for group discussion, brainstorming, sharing ideas and WIP files. Failure to contribute to these forums will result deduction in your grade. Note: If you work on the term project entirely, you do not need to use the Discussion Forum

- All teams follow the guidelines and deadlines:

**Term Project consists of four milestones:**

- **Milestone 0- PROPOSAL:** Describe the problem, issues involved, what critical issue will be tackled, importance of the problem, benefits to the business or community if solved. Describe the data, population and sampling, data collection procedure, roles and responsibilities of the team members, **Due: 09/08/16**.
- **Milestone 1 – Data Collection, Descriptive Data Analysis, Sample size check, Research Hypotheses, Due: 09/29/16**
- **Milestone 2**: Hypotheses testing, Comparison of two means-ANOVA or Regression Analysis, Forecasting models, Spreadsheet modeling and risk simulation as they apply, Due: 11/22/16
- **Milestone 3**: Draft report and data analysis, results, solutions. Due: 11/29/16
- **Final Milestone**: Project report and team presentation, Due: 12/08/16. Report consists of problem description, summary of results, Interpretation of the findings, benefits, shortcomings. A hardcopy of the project report consists of 5-10 pages text, a summary of Excel tables and PowerPoint slides in handout format. It is required to submit all files electronically in the Term Project dropbox.

Each team may also schedule a meeting with the instructor regarding the progress of their project any time before the milestone dates.

**Note about teams**: Team members need to participate to the Discussion Forum. Also teams are asked to evaluate the teamwork, i.e. contribution of their partner for the term project and for the assignments by filling out Peer Evaluations.

**Important Requirement about Term Project**: As this project substitutes the final exam, if missed or incomplete, an F grade is assigned depending on the progress.

**Optional, extra credit points**: It is expected that you participate to FURC: Florida Undergraduate Research Conference in February with this project. You need to submit an abstract and write a commitment letter by 12/08 to receive extra credit points. Travel expenses are fully reimbursed. More information will be provided throughout the semester. Check it out: [http://www.fau.edu/furc/](http://www.fau.edu/furc/)

6. **EXAMS and ON-LINE QUIZZES (Exams: 200 points, 50%, Quizzes: 60 points, 15%)**

3 class exams are administrated. You will have access to computer for these exams. Exams consist of short by hand problem solutions, Excel questions and few MC concept questions.

Most of the concept is tested thru 3 online quizzes on Canvas. These quizzes also prepares you for the exam topics.

**GRADING:**

**Individual**
- EXAMS (3) 200 points, 50%
- ONLINE QUIZZES (3) 60 points, 15%
- PARTICIPATION (attendance + class participation) 20 points, 5%

**Individual / Group**
- PROBLEM/ COMPUTER ASSIGNMENTS (6) 60 points, 15%
- COURSE TERM PROJECT 60 points, 15%

**TOTAL:** 400 points

A: Outstanding: 100 - 93.0%, 400 – 372 points
A-: Very Good: 92.9 - 90.0%, 371.6 – 360 points
B+: Good: 89.9 – 87%, 359.6 – 348 points
B: Moderately good: 86.9 – 83% 347.6–332 points
B- Fair: 82.9 – 80% 331.6 – 320 points
C+: Somewhat Fair: 79.9% – 75% 319.6 – 300 points
C: Unsatisfactory*: 74.9 – 70%, 299.6 – 280 points
D: Poor: 69.9 - 60%, 279.6– 240 points
F: Unacceptable < 60% less than 240 points

*In order to pass this course, the minimum grade is C, i.e. 70%, or 280 points out of 400.

Academic Behavior Standards and Academic Dishonesty

All students are expected to demonstrate honesty in their academic pursuits. The university policies regarding issues of honesty can be found in the FGCU Student Guidebook under the Student Code of Conduct and Policies and Procedures sections. All students are expected to study this document which outlines their responsibilities and consequences for violations of the policy. The FGCU Student Guidebook is available online at http://studentservices.fgcu.edu/judicialaffairs/new.html

University Nondiscrimination Statement

Florida Gulf Coast University is committed to ensuring equity and fairness for all University employees, students, visitors, vendors, contractors and other third parties. As such, the University prohibits discrimination on the bases of race, color, national origin, ethnicity, religion, age, disability, sex (including sexual harassment/assault), gender identity/expression, marital status, sexual orientation, veteran status or genetic predisposition with regard to admissions, employment, programs or other activities operated by the University. This prohibition extends to enforcement of Title IX of the Education Amendments of 1972. Questions or complaints should be directed to the Office of Institutional Equity and Compliance (OIEC). The OIEC’s phone number is (239)745-4366; the OIEC email address is OIEC@fgcu.edu.

Disability Accommodations Services

Florida Gulf Coast University, in accordance with the Americans with Disabilities Act and the university’s guiding principles, will provide classroom and academic accommodations to students with documented disabilities. If you need to request an accommodation in this class due to a disability, or you suspect that your academic performance is affected by a disability, please see me or contact the Office of Adaptive Services. The Office of Adaptive Services is located in the Wellness Building. The phone number is 239-590-7956 or Video Phone (VP) 239-243-9453. In addition to classroom and campus accommodations, individuals with disabilities are encouraged to create their personal emergency evacuation plan and FGCU is committed to providing information on emergency notification procedures. You can find information on the emergency exits and Areas of Rescue Assistance for each building, as well as other emergency preparedness materials on the Environmental Health and Safety and University Police
Department websites. If you will need assistance in the event of an emergency due to a disability, please contact Adaptive Services for available services and information.

**Additional assistance:** The Center for Academic Achievement (CAA) offers academic support services for any FGCU student. The services are at no extra charge to students and include: peer tutoring, Supplemental Instruction, Student Success Workshops, and individualized academic coaching. If you would like to participate in or learn more about these services, please visit the CAA in Library 103. You may also email the CAA at caa@fgcu.edu or call at (239) 590-7906. The CAA website is www.fgcu.edu/CAA.

**Student Observance of Religious Holidays**

All students at Florida Gulf Coast University have a right to expect that the University will reasonably accommodate their religious observances, practices, and beliefs. Students, upon prior notification to their instructors, shall be excused from class or other scheduled academic activity to observe a religious holy day of their faith. Students shall be permitted a reasonable amount of time to make up the material or activities covered in their absence. Students shall not be penalized due to absence from class or other scheduled academic activity because of religious observances. Where practicable, major examinations, major assignments, and University ceremonies will not be scheduled on a major religious holy day. A student who is to be excused from class for a religious observance is not required to provide a second party certification of the reason for the absence.

**Resources for Faculty General Education**

Information on General Education program requirements is available online at http://www.fgcu.edu/General_Education/index.html

**Service-Learning**

Information on integrating service-learning into the course and course syllabus is available online at http://www.fgcu.edu/Connect/

**Distance-Learning**

Information on distance learning courses is available online at http://itech.fgcu.edu/distance/

**Online Tutorials**

Information on online tutorials to assist students is available online at http://www.fgcu.edu/support/Approved

Canvas Learning Management System and Demonstration Site Information on Canvas is available online at http://canvas.fgcu.edu/ and https://fgcu.instructure.com/courses/7692

**Library Resources**

Main page: http://library.fgcu.edu/ Tutorials & Handouts: http://library.fgcu.edu/RSD/Instruction/tutorials.htm Research Guides: http://fgcu.libguides.com/ Faculty Support: http://library.fgcu.edu/faculty_index.html Contact Us:

http://library.fgcu.edu/LBS/about/contactus.htm