PROFESSOR: Dr. Joel Sokol

COURSE DESCRIPTION

A professional practice experience for students in the Master of Science in Analytics degree program, where students have an opportunity to apply ideas from the classroom to an important project of interest to a business, government agency, or other organization.

PREREQUISITES

- CSE 6242 Data and Visual Analytics
- MGT 6203 Data Analytics in Business
- A total of at least 8 (preferably 10) courses toward the MS in Analytics degree
- A company or organization's analytics project, already identified and approved by the MS Analytics program

COURSE GOALS

The course is designed to give students experience in how to:

- properly define and scope an analytics project to fit the needs of an organization;
- apply appropriate analytics ideas, methodologies, and tools;
- create value, insight, and knowledge using analytics skills and principles;
- manage a project; and
- present results professionally in writing and orally.

COURSE REQUIREMENTS

Students in this course are required to complete an applied analytics project with a company/organization, submit a midterm and final summary of the project, and watch supplementary video material from applied analytics experts. The details of the project, summary reporting, and video requirements are given below.

PROJECT TYPES

There are two types of projects that students may do in this course:

- **Employer project**: An analytics project at a company or organization you work for, either full-time or as an intern/co-op. With this type of project, it is likely you will be

the only student in the class working on it. Even if co-workers are also working on this project, students are required to submit only their own work for grading.

- **Contributed project**: An analytics project contributed by a company or organization, for students who did not find a project on their own. With this type of project, it is likely there might be other students in the class working on it. Students may work in teams or as individuals. For students working in a team, only one submission per team is required. Whether team or individual, TAs and contributed project sponsors will establish communication channels and guidelines during the kick-off meeting at the start of the project.

PROJECT REQUIREMENTS

There are three main requirements of an applied analytics practicum project:

- **Methodology**. The project must require the use of analytics skills and knowledge learned in the MS Analytics curriculum, or built upon that knowledge. The purpose is for students to get significant project experience using what they have learned.

- **Value**. The project's goal should be to create significant value, insights, and/or knowledge for the company or organization.

- **Magnitude**. The project should be significant enough to require the full semester allotted.

Students working on a project that requires confidentiality may sign a non-disclosure agreement with their company/organization. These students will then be restricted from presenting some details of the project to the instructor. Therefore, the project supervisor's evaluation will be an especially important part of the grading process.

COMMUNICATION WITH PROJECT COMPANY/ORGANIZATION

For students working on Employer Projects, it is expected that the student and employer will agree on a communication schedule, and that students are responsible for making sure communication is timely and smooth. A supervisor on the company/organization side will be asked to submit an evaluation form at the end of the semester; this evaluation can be a significant contributor to the student's grade.

For students working on Contributed Projects, the company/organization will choose its preferred channel and schedule of communication. The company/organization may also specify additional reports or deliverables. Students are expected to abide by all of these company/organization guidelines for communication, and submit all of the deliverables specified by the company/organization.

PROJECT REPORTING

At two times during the semester, students are required to submit reports to the faculty:

- Nearly halfway through the semester, a midterm progress report must be submitted in the form of a slide deck. These can be submitted in either .pptx or .pdf format. The midterm progress report should explain the purpose of the project, what you've done so far, and what you plan to do by the end of the semester.

- Near the end of the semester, a final written report (written text, not a slide deck) must be submitted. These can be submitted in either .docx or .pdf format. The final report should explain the purpose of the project, what you did, and what the results or insights or recommendations are. The best technical writing is clear, concise, and easy to understand; as standard practice, visuals (figures, graphs, charts, etc.) are encouraged wherever they can assist in quick understanding.

Both reports should contain whatever information is required for an analytics professional (who might yet be unfamiliar with the basis of the project) to understand the project, your approach, and your results. If a non-disclosure agreement restricts you from sharing some information, you should share as much as you can, and describe the rest in non-specific terms (e.g., "we analyzed a manufacturing process with n steps" could replace a description of a semiconductor manufacturing process).

GRADING POLICY

Grading for the course will be determined as follows:

1. Project work (80 points)

    - 40 points: Project work
    - 20 points: Professionalism reviews
    - 10 points: Midterm slide deck
    - 10 points: Final report

    By nature, this sort of project is (and should be) graded subjectively. An important consideration in the grading is that there are often multiple good ways of approaching an analytics project, and multiple good styles of presentation and report (so, for example, you don't have to use a specific style or template or model). When grading, I will understand that there are differences of style, so you do not have to worry about matching your style to my preferences. Similarly, different companies, organizations, and individuals vary in their style of communication, expected speed of response, etc., so the professionalism aspect of the grading does not include any specific requirement other than to treat all participants

respectfully and to adhere to the standards of the company/organization, the Georgia Tech honor code, and the MS Analytics collegiality policy.

For every project, especially employer projects, the project supervisor's feedback will be an important component of the grading process.

2. Supplemental videos (20 points)

   - 20 points: Viewing Videos

   In addition to the project itself, this course will also contain a library of supplemental videos about a variety of topics in Analytics, presented by outstanding experts in the field.

   All students are expected to completely view each of these videos by the deadlines listed in the table below. Those who fail to do so will lose credit proportionally from the 20-point total.

   Videos will be available from the beginning of the class, so you can watch them all right away if you want to get this part of the course completed quickly.

DUE DATES

Starting with the second week of the semester, a new set of videos must be watched each week until they are all complete. As described above, a slide deck is due near the middle of the semester and a final report is due near the end of the semester. All due dates are shown in the table at the end of this syllabus. These times are subject to change so please check back often. Please convert from UTC to your local time zone using a Time Zone Converter.

TIMING POLICY

- Supplemental videos should be completed by their due dates.
- The midterm and final reports must be completed on schedule to allow for timely grading.
- You will have access to the course content for the scheduled duration of the course.

ATTENDANCE POLICY

- This is a fully online course.
- Log in on a regular basis to complete the supplemental videos and see any course announcements that have been posted.
- All official announcements related to the course will be sent through Georgia Tech email. Students are expected to check their @gatech.edu email regularly.

PLAGIARISM POLICY

- Plagiarism is considered a serious offense. You are not allowed to copy and paste or submit materials created or published by others, as if you created the materials. All materials submitted and posted must be your own. Any background materials you use should be cited.

STUDENT HONOR CODE

All students pursuing the MS Analytics degree are expected and required to abide by the letter and spirit of the Georgia Tech honor code. The teaching assistants and I will also abide by these honor codes. Please feel free to contact me if there is any way that I can help you in complying with the honor code.

- I'm very serious about this. Ethical behavior is extremely important in all facets of life.
- Review the Georgia Tech Student Honor Code www.honor.gatech.edu.
- You are responsible for completing your own work.
- Any MS Analytics degree student suspected of behavior in violation of the Georgia Tech Honor Code will be referred to Georgia Tech's Office of Student Integrity.

COMMUNICATION

- All students should ask questions, and answer their fellow students' questions, on the course discussion forums. Often, discussions with fellow students are the sources of key pieces of learning.
- You can also ask questions of the instructor and teaching assistants via the course discussion forums. For special cases such as failed submissions due to system errors, missing grades, failed file uploads, emergencies that prevent you from submitting, personal issues, etc., please post a private message to the instructor and teaching assistants on the discussion forum.

NETIQUETTE

- Netiquette refers to etiquette that is used when communicating on the Internet. Review the Core Rules of Netiquette. When you are communicating via email, discussion forums or synchronously (real-time), please use correct spelling, punctuation and grammar consistent with the academic environment and scholarship[1].

- *In Georgia Tech's MS in Analytics program, we expect all participants (faculty, students, teaching assistants, staff) to interact respectfully. Students who do not adhere to this guideline may be removed from the course.*

[1] Conner, P. (2006-2014). Ground Rules for Online Discussions, Retrieved

4/21/2014 from http://teaching.colostate.edu/tips/tip.cfm?tipid=128

SUPPORT FOR STUDENT WITH DISABILITIES

***Diversity and Disability Statement*:** Georgia Tech values diversity and inclusion; we are committed to a climate of mutual respect and full participation. Our goal is to create learning environments that are usable, equitable, inclusive and welcoming. If there are aspects of the instruction or design of this course that result in barriers to your inclusion or accurate assessment or achievement, please notify the instructor as soon as possible. Students with disabilities should contact the Office of Disability Services to discuss options of removing barriers in this course, including accommodations. ODS can be reached at 404.894.2563,dsinfo@gatech.edu, or disabilityservices.gatech.edu

***Access and Accommodations*:** Your experience in this class is important to the instructor. If you have already established accommodations with the Offices of Disability Services, please communicate your approved accommodations to the instructor at your earliest convenience so your needs in this course can be discussed. If you have not yet established services through Disability Services, but have a temporary health condition or permanent disability that requires accommodations (conditions include but not limited to; mental health, attention-related, learning, vision, hearing, physical or health impacts), please contact the Office of Disability Services at 404.894.2563 or dsinfo@gatech.eduordisabilityservices.gatech.edu.Disability Services offers resources and coordinates reasonable accommodations for students with disabilities and/or temporary health conditions. Reasonable accommodations are established through an interactive process between you, your instructor(s) and Disability Services. It is important to the Georgia Institute of Technology to create inclusive and accessible learning environments consistent with federal and state law.

COURSE TOPICS AND SAMPLE PACING SCHEDULE

The table below contains a course topic outline and assessment due dates.

Week	Report and/or Supplementary Video Topic Due	Due Date
Week 1	None	
Week 2	**Creative Analytics Solutions** Dr. Narendra Mulani *Chief Analytics Officer, Accenture Applied Intelligence*	Sep 1 @ 06:00 UTC Sep 1 @ 2am ET Aug 31 @ 11pm PT

Week 3	**The Basics of Leadership** Maj. Gen. Ronald Johnson, US Army (ret.) *Professor of the Practice, Georgia Tech*	Sep 8 @ 06:00 UTC Sep 8 @ 2am ET Sep 7 @ 11pm PT
Week 4	**Managing Change in an Organization** Mr. Sig Mejdal *Vice President and Assistant General Manager, Baltimore Orioles*	Sep 15 @ 06:00 UTC Sep 15 @ 2am ET Sep 14 @ 11pm PT
Week 5	**Law and Ethics** Peter Swire, J.D. *Holder Chair and Professor, Georgia Tech*	Sep 22 @ 06:00 UTC Sep 22 @ 2am ET Sep 21 @ 11pm PT
Week 6	**The Persuasive Speaker** Joey Asher, J.D. *President, SpeechWorks*	Sep 29 @ 06:00 UTC Sep 29 @ 2am ET Sep 28 @ 11pm PT
Week 7	**MIDTERM REPORT (SLIDE DECK)**	Oct 6 @ 06:00 UTC Oct 6 @ 2am ET Oct 5 @ 11pm PT
Week 8	**Valuation and Value Creation** Dr. Jacqueline Garner *Executive Editor, FMA Online and Professor, Georgia Tech*	Oct 13 @ 06:00 UTC Oct 13 @ 2am ET Oct 12 @ 11pm PT
Week 9	**Case Studies** AT&T	Oct 20 @ 06:00 UTC Oct 20 @ 2am ET Oct 19 @ 11pm PT
Week 10	**Preparing for Your New Environment** Dr. Beverly Wright *VP Partner, RelationalAI*	Oct 27 @ 06:00 UTC Oct 27 @ 2am ET Oct 26 @ 11pm PT
Week 11	**Final Report Expectations** Course TAs	Nov 3 @ 06:00 UTC Nov 3 @ 2am ET Nov 2 @ 11pm PT
Week 12	None	
Week 13	None	

Week 14	None	
Week 15	**FINAL REPORT (WRITTEN DOCUMENT) [Submit both on Canvas *and* to employer or sponsor]**	Dec 1 @ 07:00 UTC Dec 1 @ 2am ET Nov 30 @ 11pm PT
Week 16	None	

COURSE MATERIALS

- All content and course materials can be accessed online
- There is no textbook for this course

TECHNOLOGY/SOFTWARE REQUIREMENTS

- Internet connection (DSL, LAN, or cable connection desirable)
- Analytics software appropriate for your project, as you have learned in previous MS Analytics courses
- Microsoft Word and PowerPoint, *or* document and presentation-slide creation software with the ability to save its output in .pdf format

Adobe Acrobat PDF reader (free download; see https://get.adobe.com/reader/