

IS 4400 Syllabus

IS Directed Study: **Micro Tools for Data Analytics and Extraction, Translation, and Loading (ETL)**

Instructor: Dominic Thomas, Ph.D.

Email: dominic.thomas@kennesaw.edu **Phone:** 470-578-5201

LinkedIn: <http://www.linkedin.com/in/dominict> (connect; indicate our relationship)

Office: KSU main campus, Burruss Building, rm 495

Office Hours: By appointment

Course Location and Timing

TBD: Hybrid, Burruss 477.

Catalog Description: This course/project explores the issues and approaches for developing information systems (IS) micro tools to fill gaps between information systems in corporate setting. Micro tools are small augmentations often designed for extraction, translation, and loading between information systems. They may also provide analytic services and augmentation during the translation phase. The project takes a senior management perspective in exploring the acquisition, development, and implementation of plans and policies to enable micro tool productivity and security. As businesses evolve IS often remain optimized to prior needs. Thus, alternatives are needed to fulfill emerging data requirements. Hands-on research in this course will explore the intersection of micro tools connecting Microsoft Excel and Python.

Textbook/Course Materials

- Automate the Boring Stuff with Python, 2nd Edition, Practical Programming for Total Beginners by Al Sweigart, November 2019, 592 pp., ISBN-13: 9781593279929 plus additional tutorials and materials found online

Course Goals & Learning Objectives

This course is different from your typical course up to now. It is focused on developing productivity tools and data analytics to assist leadership in better decision making. It assumes you have various basic skills and knowledge of Python prior courses as well as some confidence and capability at developing code. Our biggest challenge in this course is to add to those skills while branching into more ambiguous applications more similar to the work you will encounter in your careers. Business decisions related to strategy, operational and tactical decision management, in organizations constantly revolves around Data analytics and figuring out how to improve and drive competitive advantage through information. This is not easy, which is why the IT services industry globally consumes ~\$1 *Trillion* each year and continues to grow. When the environment around you at work is in chaos and you are having to work with teams to solve tough problems, but budgets constrain implementation of IT solutions, you need the ability to write Python code instructions to gather and convert raw data from IT systems into usable information.

Grading

Students will be evaluated on the following items:

Tutorials = 25%

Project: Earned Value Mirco Tool Development = 25%

Project: Forecasting Micro Tool Development = 25%

Project: Policy / Technology Proposals = 25%

Tutorials (Exercises)

Complete all chapters of the textbook and present the results to the professor.

Project

The client needs to pull raw data from business finance jobs data (IOs for hours, tasks, etc.) to calculate earned value against the original plan in conjunction with official reporting requirements. Next, develop forecasting models for projects feeding off of existing data sources and incorporating key variables, which will need to be identified. Additionally, figure out any organizational policy / technology upgrade / changes needed to enable more effective micro tool deployment and present proposals to management for these changes.

Statement on Physical/Emotional Health

A range of issues can cause barriers to learning, such as strained relationships, increased anxiety, health issues, alcohol/drug problems, feeling down, difficulty concentrating, lack of motivation or feeling ill. These concerns or other stressful events may lead to diminished academic performance or may reduce your ability to participate in daily activities. University resources can help you address these and other concerns. You can learn more about KSU's broad range of medical and confidential mental health services at: <http://studenthealth.kennesaw.edu/> and <http://counseling.kennesaw.edu/> We are bound by the KSU Academic Integrity Statement (listed below). There is a **zero tolerance** policy for violations in this course.

Statement on Accommodations for Students with Disabilities

If you anticipate issues with the format or requirements of this course, please meet with me—I would like to discuss ways to ensure your full participation in my classroom. If you determine that you need formal, disability-related accommodations, it is very important that you register with the Office of Student Disability Services (<http://sds.kennesaw.edu/>) and notify me of your eligibility for reasonable accommodations. We can then plan how best to implement your accommodations.

Academic Affairs - Federal, BOR, & KSU Policies

This link provides information and current policies on additional technology resources including how to get help; academic resources for disabilities, tutoring, ESL, the library; wellness and how to report any concerns about other students; and grade appeals: http://curriculum.kennesaw.edu/resources/ksu_student_resources_for_course_syllabus.php

Academic Integrity Statement

Every KSU student is responsible for upholding the provisions of the Student Code of Conduct, as published in the Undergraduate and Graduate Catalogs. Section 5c of the

Student Code of Conduct addresses the university's policy on academic honesty, including provisions regarding plagiarism and cheating, unauthorized access to university materials, misrepresentation/falsification of university records or academic work, malicious removal, retention, or destruction of library materials, malicious/intentional misuse of computer facilities and/or services, and misuse of student identification cards. Incidents of alleged academic misconduct will be handled through the established procedures of the Department of Student Conduct and Academic Integrity (SCAI), which includes either an "informal" resolution by a faculty member, resulting in a grade adjustment, or a formal hearing procedure, which may subject a student to the Code of Conduct's minimum one semester suspension requirement. See also KSU Student Code of Conduct (<https://web.kennesaw.edu/scai/content/ksu-student-code-conduct>).

Electronic Communication

Use Teams to communicate. You can post to channels and open direct chats there. It is an officially-supported KSU tool. The University provides all KSU students with an "official" email account with the address "students.kennesaw.edu" or "kennesaw.view.usg.edu" (in D2L). As a result of federal laws protecting educational information and other data, this is the sole email account you should use to communicate with your instructor or other University officials. Note that the D2L email often fails. Please avoid it. Please use dominic.thomas@kennesaw.edu directly instead.

Schedule of Deliverables

Present Results of Tutorials = September 18, 2020

Present Results of Project: Earned Value Micro Tool Development = October 23, 2020 Present

Results of Project: Forecasting Micro Tool Development = November 20, 2020 Present Results of

Project: Policy / Technology Proposals = December 9, 2020