MSIS 5713: Scripting Essentials
Spring Semester 2023

This online course has the following technical requirements:

· A broadband internet connection

· Windows 10 or Mac OS El Capitan or newer operating system are preferred

· Google Chrome web browser   **Note:** lecture videos are **not** compatible with Internet Explorer or Edge.

· VLC Viewer video player

You must have admin control of your machine in order to install VMRC

Sections:
MSIS 5713.24082

Instructor: Dr. Jim Burkman
E-mail: jim.burkman@okstate.edu
Homepage: canvas.okstate.edu
Office: BUS 306
Office hours: By appointment*
Phone: (405)744-5142
Club: http://isac.okstate.edu

*We can chat virtually using Zoom, Canvas Conference, Google Meet or Discord

Textbooks: *None*

Discussion Forum: There is a discussion forum on Canvas where you can share information, ask questions, etc. I'll be hanging out there as well.

The OSU Syllabus Attachment includes important dates, information, and resources to HELP YOU SUCCEED and is available on the course CANVAS site.

Course Site: (Canvas): https://canvas.okstate.edu

Greenwood Center for Online Excellence Support: spearsonline@okstate.edu
> Phone: 405-744-4048
> Facebook: Follow Spears School Online Learning on Facebook!
> http://www.facebook.com/SpearsOnline/

Course Description: Today's powerful computers allow for the use of scripting languages (as opposed to compiled programs) to perform a wide variety of essentials business programmatic tasks. For cross-platform flexibility we can use Python – with its many open source libraries – to automate routine and repetitive tasks. In Windows, specifically, PowerShell is also a powerful scripting environment. On Linux and Unix machines we often reach for BASH.

This course will give the student a foundational understanding of these scripting languages and the utility of scripting as a process. Students will be expected to demonstrate proficiency of these languages in assignment and project formats. Course content will be delivered primarily through lectures and lab projects. Additional readings may be assigned.

Be sure to check the Canvas site often. This syllabus and the Canvas site for this class will likely change in response to the progress of this class. The policies and schedule in this syllabus are subject to change at my discretion, upon notice in any form to the class. You are responsible for getting any downloads offered for upcoming classes from Canvas. Handouts, assignments, slides, due dates, and other information will be posted on Canvas.

Learning to write code is like learning to ride a bike or do a backflip. You can be taught the concepts and shown examples but you'll only learn by doing. With code that means trying, thinking, trying more. The very second that someone prematurely shows you the solution your learning experience for that challenge ends without you actually learning. Start your homework and projects early. Walk away from them for a bit when you get frustrated. Complete them on your own and those skills will never leave you. You can do this!

Learning Goals and Course Objectives:

Critical Making

Upon completion of this course the student should be able to:

Identify appropriate use cases where scripting would increase business efficacy

Break complex problems into component parts for solution creation

Apply technical knowledge to solve unstructured problems

Be able to evaluate the merit of alternate explanations for patterns in data and behaviors.

Business Knowledge and Competency

Upon completion of this course the student should be able to:

Demonstrate a fundamental knowledge of the applications of scripting languages in the business environment.

Apply scripting to solve a business problem.

Resolve business needs into logical processes that can be instantiated in coded steps.

Technological Competence

Upon completion of this course the student should be able to:

Read, write and edit complex scripts in PowerShell and Python and BASH.

Utilize text searching and parsing in a variety of environments.

Use scripting to augment other MIS skills such as data analysis and information assurance.

Attendance: Attendance is at your whim, given that this is an online course. You are solely responsible for staying on top of the lectures and assignments.

Participation: Class participation is an integral part of the class. Sections that have students who ask a lot of questions during class do demonstrably better than those who do not

Class Conduct: In the course forums and all correspondence please always keep your comments civil and professional.

Graduate Grading:

Tutorials (12 @ .83% each)	10%
Homework Scripts (12 @ 3.33% each)	40%
Projects (3 @ 16.67% each)	50%

Regardless of the number of tutorials each will be weighted the same and combined they contribute to 24% of your course grade. Individual tutorials may be worth different point values but each tutorial is worth 2% of your course grade. The same approach holds true for homework scripts and projects.

A course grade of 90% or better will result in a letter grade of A, 80-89% B, 70-79% C, 60-69% D, <60% F. **NOTE!** I reserve the right to uniformly move the class average up at the end of the semester. For example, if the course average is 70%, I will not move it to 68%, but I may move it to 72%. This is not a curving process, as all individual scores would move the same amount.

Tutorials: Tutorials will be simple coding exercises with a lot of instruction, designed to help you first experience a new concept. Late tutorials will not be accepted.

Homework Scripts: Homework assignments will provide much less instruction than tutorials and will involve problems requiring greater logical effort. Late homework will not be accepted. Each homework assignment must entirely your own work. Homework copied (in part or in total) from another student or source, or provided to another student (in part or in total), will result in an Academic Integrity violation and up to a score of zero for the assignment.

Projects: Each project will test your mastery and extension of the concepts that we've covered in class and in homework assignments. Project are to be treated like exams. No collaboration is allowed and all work must be entirely your own. Projects copied (in part or in total) from another student or source, or provided to another student (in part or in total), will result in an Academic Integrity violation and up to a score of zero for the assignment. Projects will be graded exclusively by the instructor. Late projects will not be accepted.

General: All work done in this course must be completed using only commands provided during the course instruction. Any work submitted using commands or syntax (such as list comprehension) not covered prior to the assignment will not receive any points.

Software: You must install VMRC on your computer in order to user the virtual machines for this class.

Course Flow: Each topic will be introduced in a lecture with demonstration on Thursday. A tutorial assignment on that topic will then be due that Sunday night. A scripting assignment on that topic will be due by the following Wednesday night. I will host an optional open Zoom each Monday evening from 7-8pm CST for a short "lab" Q&A session. Meeting ID: 692 732 9558 Passcode: 5zTjSJ

I strongly suggest that you come to the Monday Zoom having at least read the homework. The Monday evening Zoom is the best time to get help with your code. I will not provide coding assistance on Wednesday after 5 pm. Your best strategy is to do the tutorial Thursday night or Friday, then at least read through the homework prior to the Zoom meeting Monday evening for questions or to have me look at your homework for any obvious issues that can be corrected by the Wednesday evening deadline

Extra Credit: There will be extra credit offered at the end of the semester for completion of the Student Survey of Instruction (class evals).

Instructor Response: You should hear back from me within 24 hours for most emails. If for some reason you've not gotten a response with 24 hours please email me again. That's a rare oversight on my part. Remember, emailing me is the fastest way to get my attention! Grades for exams will appear on Canvas right after you take the exam.

Make-up Policy: Students are expected to take each exam on the dates given. Please contact me as quickly as possible if there is going to be a conflict.

Drop Policy: Information about university drop policy and dates is at:
http://registrar.okstate.edu/
To drop this course, contact the Registrar's office, (405) 744-6876, or drop through Banner Self Service.

Academic Conduct: Oklahoma State University is committed to the maintenance of the highest standards of integrity and ethical conduct of its members. This level of ethical behavior and integrity will be maintained in this course. Participating in a behavior that violates academic integrity (e.g., unauthorized collaboration, plagiarism, multiple submissions, cheating on examinations, fabricating information, helping another person cheat, unauthorized advance access to examinations, altering or destroying the work of others, and fraudulently altering academic records) will result in your being sanctioned. **Use of any AI, Chegg or other assistance technology or outside assistance in the class will be treated as plagiarism.** Violations may

subject you to disciplinary action including the following: receiving a failing grade on an assignment, examination or course, receiving a notation of a violation of academic integrity on your transcript (F!), and being suspended from the University. You have the right to appeal the charge. Contact the Office of Academic Affairs, 101 Whitehurst, 405-744-5627, academics@okstate.edu.

Student Accessibility: According to the ADA, each student with a disability is responsible for notifying the University of his/her disability and requesting accommodations. If you think you have a qualified disability and need classroom accommodations, contact Student Accessibility Services. Please advise the instructor of your disability as soon as possible, to ensure timely implementation of appropriate accommodations. Faculty have an obligation to respond when they receive official notice of a disability from SAS but are under no obligation to provide retroactive accommodations. To receive services, you must submit appropriate documentation and complete an intake process during which the existence of a qualified disability is verified and reasonable accommodations are identified. For more information about OSU Student Accessibility Services, please go to: https://accessibility.okstate.edu/ or call 405-744-7116 v/t.

Course Schedule (Subject to Change)

Week 1 (begins Monday 1/16/2023)	Intro	Mod 01
Week 2 (begins Monday 1/23/2023)	Mod 01	Mod 02
Week 3 (begins Monday 1/30/2023)	Mod 02	Mod 03
Week 4 (begins Monday 2/6/2023)	Mod 03	Mod 04
Week 5 (begins Monday 2/13/2023)	Mod 04	Project 1
Week 6 (begins Monday 2/20/2023)	Project 1	Mod 05
Week 7 (begins Monday 2/27/2023)	Mod 05	Mod 06
Week 8 (begins Monday 3/6/2023)	Mod 06	Mod 07
Week 9 (begins Monday 3/13/2023)	Spring Break	
Week 10 (begins Monday 3/20/2023)	Mod 07	Mod 08
Week 11 (begins Monday 3/27/2023)	Mod 08	Project 2
Week 12 (begins Monday 4/3/2023)	Project 2	Mod 09
Week 13 (begins Monday 4/10/2023)	Mod 09	Mod 10
Week 14 (begins Monday 4/17/2023)	Mod 10	Mod 11
Week 15 (begins Monday 4/24/2023)	Mod 11	Mod 12
Week 16 (begins Monday 5/1/2023)	Mod 12	Project 3
Finals Week	Project 3 (Due 5/9 11:59 pm)	

	Flow Control	Lists and Advanced Flow Control	Strings	Files
Python	Mod 01	Mod 02	Mod 03	Mod 04
BASH	Mod 05	Mod 06	Mod 07	Mod 08
PowerShell	Mod 09	Mod 10	Mod 11	Mod 12

Scripting Class Rules

Please email me at jim.burkman@okstate.edu with questions or post your questions to the discussion board under the appropriate section. Do not, under any circumstances, contact my TA. Please do not use the messaging/email feature from within Canvas to contact me.

You are only allowed to use your virtual machines at vcenter.bus.okstate.edu for this class. You will be provided with one OpenSuse machine and one Win10 machine. Every effort has been made to sandbox these machines so that students cannot access other student machines. Any effort made by a student to access any virtual machine other than those assigned to the student may result in an academic integrity sanction and/or a student conduct violation. Obvious exclusions to this rule include the sftp servers at 192.168.1.1 and 192.168.1.3

Shut down your virtual machines each time you leave! Do this properly by shutting the machine down inside the operating system. Machines left on in the middle of the night between 3-4 am CST may be shut down by my automated scripts. Any file losses or issues created by machines being left on during this maintenance window will be the student's responsibility.

Student scripts will be graded on the student machines. Scripts must be named and placed in locations designated by the tutorials and homework assignments. Late assignments will not be graded. File modification dates will be used to determine if an assignment is late. There are no exceptions to this rule. I strongly suggest that you don't touch your file again once the submission date and time have passed.

You can backup your scripts at the sftp server on 192.168.1.3 at will. You are strongly encouraged to follow the naming format like this: jim_burkman_mod01t_011223_1534. Your name, the assignment, the date and the time. If you upload a file name that already exists on the sftp server the old file will be overwritten. Any student upload can overwrite an existing file so it is in your best interest to follow this naming convention to avoid duplicates. This sftp server will be backed up nightly.

Technology is fickle. The Internet can be down, OSU can have outages, etc. These types of interruptions will not - unless of an extended duration affecting all students in the class - extend an assignment's deadline. If you wait until the last few hours to get your assignment done and submitted and there is a technological issue you run the risk of your assignment being late. The best you can hope for is that I'll accept your most recent backup (on 192.168.1.3) of that assignment for grading.

For all code: The work must be solely your own effort. You may not work with other students on any assignments, projects or exams in this class. You can only use commands that I've explicitly covered in class. Assignments that use commands that I've not explicitly covered in class may have a reduced score, or a score of zero. Clear instances of duplicated code, collaboration or outside help may result in an academic integrity violation.

Code elements have to run properly to be graded. Code that doesn't run doesn't get graded. If an assignment has 4 elements it is better to get 2 of them working rather than have 4 of them partially coded. The first instance will earn you half points. The latter will result in a zero. Code is reviewed for adherence to the assignment and course rules rather than looking for partial credit opportunities. If you have a grading complaint you have 48 hours after an assignment grade is posted to request that I review the grade.

This list of rules may be modified at any time during the semester and these are considered an integral part of the syllabus.