#### **Term Information**

Effective	Term
-----------	------

Spring 2025

#### **General Information**

Course Bulletin Listing/Subject Area	Economics
Fiscal Unit/Academic Org	Economics - D0722
College/Academic Group	Arts and Sciences
Level/Career	Undergraduate
Course Number/Catalog	4410
Course Title	Data Management and Econometric Analysis
Transcript Abbreviation	Data Mgmt Econ
Course Description	Students will learn the programming skills necessary to manage projects, import data, clean data, and produce high quality output from econometric models in Python. By the end of the course students will be proficient with data-based tasks in the Python programming language and be capable of applying those skills to econometrics.
Semester Credit Hours/Units	Fixed: 3

### **Offering Information**

Length Of Course	14 Week, 12 Week
Flexibly Scheduled Course	Never
Does any section of this course have a distance education component?	No
Grading Basis	Letter Grade
Repeatable	No
Course Components	Lecture
Grade Roster Component	Lecture
Credit Available by Exam	No
Admission Condition Course	No
Off Campus	Never
Campus of Offering	Columbus

#### **Prerequisites and Exclusions**

Exclusions	
Electronically Enforced	

Prerequisites/Corequisites

Econ 3400 or equiv. Although not required, those with credit or concurrently taking Econ 4400 or Econ 5410 will be better prepared. Students should have a basic familiarity with Python. CSE 1224 is recommended to those with no previous experience.

#### Yes

**Cross-Listings** 

**Cross-Listings** 

### Subject/CIP Code

Subject/CIP Code Subsidy Level Intended Rank 45.0601 Baccalaureate Course Freshman, Sophomore, Junior, Senior

### **Requirement/Elective Designation**

The course is an elective (for this or other units) or is a service course for other units

Course Details	
Course goals or learning objectives/outcomes	• By the end of the course students will be proficient with data-based tasks in the Python programming language and
	be capable of applying those skills to econometrics.
Content Topic List	• Programming skills necessary to manage projects, import data, clean data, and produce high quality output from
	econometric models in Python
Sought Concurrence	Yes
Attachments	Proposal Econ 4410.docx
	(Other Supporting Documentation. Owner: Tobin, Ricky Mase)
	<ul> <li>Ohio_State_Course_Review_Concurrence_Form (1).pdf</li> </ul>
	(Concurrence. Owner: Tobin,Ricky Mase)
	<ul> <li>Re_ Concurrence request for Econ 4410.pdf: Emails with CSE</li> </ul>
	(Other Supporting Documentation. Owner: Tobin, Ricky Mase)
	<ul> <li>Curriculum Map Update 2024 June.xlsx: Curriculum Map</li> </ul>
	(Other Supporting Documentation. Owner: Tobin, Ricky Mase)
	Response to Contingencies and Recommendations.pdf: Response to Contingencies and Recommendations
	(Other Supporting Documentation. Owner: Tobin, Ricky Mase)
	Econ 4410 Spring 2025 (2).docx: Revised syllabus
	(Syllabus. Owner: Tobin,Ricky Mase)
Comments	• Please see Subcommittee feedback email sent 9/3/24. (by Neff, Jennifer on 09/03/2024 04:18 PM)
	• - If this course will be able to count in your major, please upload an updated curriculum map.
	- I know there was a concurrence requested from the Dept of Computer Science and Engineering (I was cc'd on it),
	but no mention is made of this. Please provide the necessary documentation wrt your conversations with CSE. (If no
	one from CSE responded in time, then please upload the email you sent to them & add a note that no response was
	received in time.) (by Vankeerbergen, Bernadette Chantal on 06/18/2024 02:27 PM)

#### **Workflow Information**

Status User(s) Step Date/Time Submitted Tobin, Ricky Mase 06/17/2024 01:32 PM Submitted for Approval 06/17/2024 03:32 PM Unit Approval Approved Yang,Huanxing Vankeerbergen,Bernadet te Chantal **Revision Requested** 06/18/2024 02:27 PM College Approval Submitted Tobin, Ricky Mase 06/25/2024 02:58 PM Submitted for Approval 06/26/2024 05:44 PM Approved Yang,Huanxing Unit Approval Vankeerbergen,Bernadet te Chantal 08/16/2024 03:52 PM College Approval Approved **Revision Requested** Neff,Jennifer 09/03/2024 04:18 PM ASCCAO Approval Submitted Tobin, Ricky Mase 09/05/2024 11:58 AM Submitted for Approval Approved Yang,Huanxing 09/09/2024 10:34 AM Unit Approval Vankeerbergen,Bernadet te Chantal Approved 09/09/2024 11:26 AM College Approval Jenkins, Mary Ellen Bigler Hanlin, Deborah Kay Hilty,Michael Pending Approval 09/09/2024 11:26 AM ASCCAO Approval Neff, Jennifer Vankeerbergen, Bernadet te Chantal Steele,Rachel Lea

The attached syllabus includes changes to the pre-requisites to mirror those of Econ 4400 which will clarify the additional courses that should be accepted as meeting the statistics requirements and clarify the pathway for B.S. Students to take the course.

Neither Econ 4400 nor Econ 5410 have mathematics pre-requisites. The statistics prerequisite has been sufficient for students taking our Econometrics courses and I believe it will be sufficient for Econ 4410 which includes the application of the techniques taught in 4400/5410.

I believe the pre-requisite knowledge of Python will be minimal to complete the course. The goal as stated in the course description is to make students proficient in "data-based" tasks in Python. As written the schedule calls for 5 class periods and 2 home work assignments prior to opening data sets in Python during week 3. Since we are concentrating on a subset of the tasks that can be accomplished in Python we do not want to add 3 more credit hours of programming as a requirement or spend time on topics that are not relevant to cleaning data and doing econometrics.

The syllabus was revised to include the updated SLDS statement in 16 pt font and clarify the rounding of grades.

Econ 4410 Data Management and Econometric Analysis 2 meetings per week classroom with tables

Instructor: **Dr. Ryan Ruddy, PhD** email address: ruddy.19@osu.edu Office Location: 303 Arps Office Hours: See Below

### **1** Course Description

Students will learn the programming skills necessary to manage projects, import data, clean data, and produce high quality output from econometric models. By the end of the course students will be proficiency in the Python programming language and be capable of applying those skills to econometrics.

**Prerequisite(s):** Econ/IndStd 3400 or Stat 1430 (133), 1450 (145), 2450 (245), or AEDEcon 2005 (205), or equiv.

Recommended prerequisite or concurrent: Econ 4400 or 5410.

### **2** Course Materials

#### **Required Texts:**

*Python for Everybody: Exploring Data in Python 3*, Author: Charles Severance This text is required for reading assignments and reference. The text is available for free from the author at the Python for Everybody website.

Using Python for Introductory Econometrics, Author: Florian Heiss

This text is required for reading assignments and reference. The text is available for free from the author at Using Python for Introductory Econometrics

#### **Recommended Text:**

*Introductory Econometrics*, 5<sup>th</sup> Edition or higher Author: Jeffery Wooldridge This text is required for reading assignments and is a good resource. You can use the 5th, 6th, or 7th edition.

#### **Required Laptop:**

All students will need a laptop capable of running Python and the additional software listed below that they can bring to class. If you do not have a laptop, the University has a program to borrow machines.

#### **Required Software:**

The course will utilize Python for data analysis. There are several commonly used interfaces for Python. We will use Jupyter Notebook and Spyder. These are free programs. There are cloud computing sites available that can run through a web browser such as mybinder.org.

Some assignments will be completed on Data Camp. The DataCamp for universities program provides free access to students. A sign-up link will be posted on Carmen.

### **3** Class Attendance Policy:

Students are expected to attend all classes. Attendance will not be taken. In class exercises will be crucial for understanding problem sets and exams.

### **4** Course Requirements and Grades

- **Problem Sets 20%** There will be 3 problem sets assigned during the semester. You are encouraged to work together on problem sets, but must turn in your own assignment in your own words with your own code. Assignments must be submitted on Carmen. Problem sets typically take 1-2 hours to complete.
- **Project 15%** There will be a project due near the end of the semester. All projects must be replicable with a python script that you submit. The project will require students to find and clean a data set, produce descriptive statistics, produce graphics, and conduct some analysis. Students can choose any economics related topic. Projects can be papers or presentations. Papers must be less than 10 pages and presentations are limited to 7 minutes. Students can complete projects with up to 3 people in a group.
- Data Camp Assignments 15% Students will be assigned DataCamp classes to complete on a weekly basis. Completion of DataCamp classes requires completing the course earning at lest 70% of the allotted experience points for an assignment.<sup>1</sup> Data camp assignments will typically take 1-2 hours to complete.
- **Two Exams 25% each** There will be two in class exams, The first exam will take place at mid semester and the 2nd exam will take place during the final exam period. Exams will consist of a set of exercises with a supplied data set. All exams require the use of a computer and are open book.

#### Letter Grade Distribution:

Use the syllabus to calculate your current grade. The grade calculated by Carmen will not always correctly calculate the missing grades.

		73 - 76	
90 - 92	A-	70 - 72	C-
87 - 89	B+	67 - 69	D+
83 - 86	В	60 - 66	D
80 - 82	B-		
77 - 79	C+	<= 59	Е

### **5** Help with coursework:

#### 5.1 Emails

Short questions can always be answered by email. All emails received prior to 5:00 pm on a weekday will be answered that day. Send emails directly to ruddy.19@osu.edu.

#### 5.2 Economics Learning Center

During Autumn and Spring Semesters, the Department of Economics runs the Economics Learning Center in 385 Arps, where advanced undergraduate students provide free tutoring for students in

<sup>&</sup>lt;sup>1</sup>DataCamp will give correct answers and hints if you are stuck. If you take the answers and hints, you do not gain the full experience points. You cannot complete the assignments by asking the program for all of the answers.

ECON 2001, 2002, 4001, and 4002; assistance with other classes is frequently available as well. Note that the purpose of the tutoring center is not to provide answers to assignments, but to help students learn economics. As the student, you are ultimately responsible for all course work you submit. Additional information can be found at https://economics.osu.edu/economics-learning-center.

#### 5.3 Office Hours:

Office hours are available 4 hours per week in 303 Arps. Additional Zoom office hours are also available by appointment on Monday, Tuesday, and Thursday. Please visit https://go.osu.edu/ruddyoffice to book an appointment. If you are unable to come during those times, arrangements can be made to meet at other times.

### 6 Academic integrity

#### 6.1 AI

The use of AI in programming is commonplace and AI is an acceptable tool to aid in the completion of tasks. Cut and pasted code from ChatGPT or similar tools that does not run or complete the assigned task will not be given credit for exams or problem sets.

### 6.2 Open Book Exams

All exams in this class are open book. You are free to use internet sources that do not involve interaction with other people. Old message board posts and AI are permissible. Posting questions to message boards or sending communication to others during the exam is not acceptable.

#### 6.3 Ohio State's academic integrity policy:

It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term "academic misconduct" includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). For additional information, see the Code of Student Conduct http://studentlife.osu.edu/csc/.

### 7 Disability Services

The university strives to maintain a healthy and accessible environment to support student learning in and out of the classroom. If you anticipate or experience academic barriers based on your disability (including mental health, chronic, or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion.

If you are ill and need to miss class, including if you are staying home and away from others while experiencing symptoms of a viral infection or fever, please let me know immediately. In cases where illness interacts with an underlying medical condition, please consult with Student Life Disability Services to request reasonable accommodations. You can connect with them at slds@osu.edu; 614-292-3307; or slds.osu.edu.

## 8 Religious Accommodations

Ohio State has had a longstanding practice of making reasonable academic accommodations for students' religious beliefs and practices in accordance with applicable law. In 2023, Ohio State updated its practice to align with new state legislation. Under this new provision, students must be in early communication with their instructors regarding any known accommodation requests for religious beliefs and practices, providing notice of specific dates for which they request alternative accommodations within 14 days after the first instructional day of the course. Instructors in turn shall not question the sincerity of a student's religious or spiritual belief system in reviewing such requests and shall keep requests for accommodations confidential.

With sufficient notice, instructors will provide students with reasonable alternative accommodations with regard to examinations and other academic requirements with respect to students' sincerely held religious beliefs and practices by allowing up to three absences each semester for the student to attend or participate in religious activities. Examples of religious accommodations can include, but are not limited to, rescheduling an exam, altering the time of a student's presentation, allowing make-up assignments to substitute for missed class work, or flexibility in due dates or research responsibilities. If concerns arise about a requested accommodation, instructors are to consult their tenure initiating unit head for assistance.

A student's request for time off shall be provided if the student's sincerely held religious belief or practice severely affects the student's ability to take an exam or meet an academic requirement and the student has notified their instructor, in writing during the first 14 days after the course begins, of the date of each absence. Although students are required to provide notice within the first 14 days after a course begins, instructors are strongly encouraged to work with the student to provide a reasonable accommodation if a request is made outside the notice period. A student may not be penalized for an absence approved under this policy.

If students have questions or disputes related to academic accommodations, they should contact their course instructor, and then their department or college office. For questions or to report discrimination or harassment based on religion, individuals should contact theOffice of Institutional Equity.

Policy: Religious Holidays, Holy Days and Observances

### **9** Statement on Title IX

Title IX makes it clear that violence and harassment based on sex and gender are Civil Rights offenses subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories (e.g., race). If you or someone you know has been sexually harassed or assaulted, you may find the appropriate resources at http://titleix.osu.edu or by contacting the Ohio State Title IX Coordinator at titleix@osu.edu.

### **10** Student Mental Health

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to

diminished academic performance or reduce a student's ability to participate in daily activities. The Ohio State University offers services to assist you with addressing these and other concerns you may be experiencing. If you or someone you know are suffering from any of the aforementioned conditions, you can learn more about the broad range of confidential mental health services available on campus via the Office of Student Life's Counseling and Consultation Service (CCS) by visiting ccs.osu.edu or calling 614-292-5766. CCS is located on the 4th Floor of the Younkin Success Center and 10th Floor of Lincoln Tower. You can reach an on call counselor when CCS is closed at 614-292-5766 and 24 hour emergency help is also available 24/7 by dialing 988 to reach the Suicide and Crisis Lifeline.

### 11 Commitment to a diverse and inclusive learning environment

The Ohio State University affirms the importance and value of diversity in the student body. Our programs and curricula reflect our multicultural society and global economy and seek to provide opportunities for students to learn more about persons who are different from them. We are committed to maintaining a community that recognizes and values the inherent worth and dignity of every person; fosters sensitivity, understanding, and mutual respect among each member of our community; and encourages each individual to strive to reach his or her own potential. Discrimination against any individual based upon protected status, which is defined as age, color, disability, gender identity or expression, national origin, race, religion, sex, sexual orientation, or veteran status, is prohibited.

# Readings and Topics List

This calendar is a rough outline of topics to be covered. Exact weeks vary depending on holidays and pace of class.

Week	Content
Week 1	<ul> <li>Introduction to Python, Spyder, and Jupyter</li> <li>Reading: Python For Everybody (Py4E) Chapter 1-3</li> <li>Data Camp Assignment: Introduction to Python (All Sections)</li> </ul>
Week 2	<ul> <li>Python as a calculator, Variable types, lists, conditional statements, NumPy</li> <li>Reading: Py4E 6</li> <li>Data Camp Assignment: Intermediate Python (1,2)</li> </ul>
Week 3	<ul> <li>Opening Data Sets in Python, getting descriptive statistics</li> <li>Reading: Using Python for Introductory Econometrics (UPFIE) Sections 1.3- 1.5</li> <li>Data Camp Assignment: Intermediate Python (3,4), Intro to data importing (1)</li> </ul>
Week 4	<ul> <li>Descriptive Statistics Tables, Jupyter Notebooks</li> <li>Reading: Data Camp Jupyter Notebook Guide</li> <li>Data Camp Assignment: Intro to data importing (2), Data Manipulation with pandas (1,2)</li> </ul>
Week 5	<ul> <li>Data Visualization Intro</li> <li>Reading: UPFIE 1.4</li> <li>Data Camp Assignment: Data Manipulation with pandas (3,4)</li> </ul>
Week 6	<ul> <li>More Data Visualization and Maps</li> <li>Reading: Py4E 16</li> <li>Problem Set 1</li> </ul>
Week 7	<ul> <li>Loops and Functions</li> <li>Reading: Py4E 5-6</li> <li>Data Camp Assignment: Introduction to data visualization with matplotlib (1-3)</li> </ul>
Week 8	<ul> <li>Problem Set 2 Due: CPS Wage Differences by Sex and Race</li> <li>Exam 1 (See above for exam date)</li> </ul>
Week 9	<ul> <li>Regression basics</li> <li>Reading: UPFIE Sections 2.1-2.2</li> <li>Data Camp Assignment: Introduction to linear modeling in Python (1,2)</li> </ul>
Week 10	<ul> <li>Regression with polynomials, factors, logs, and interactions</li> <li>Reading: UPFIE sections 2.4, 6.1, 7.1-7.3</li> <li>Data Camp Assignments: Manipulating Time Series Data in Python (1), Time Series Analysis in Python (1)</li> </ul>

Week 11	<ul> <li>Organizing Time Series Data, creating lags, creating differences, Graphing Time Series, FREDr package</li> <li>Reading: UPFIE sections 10.1-10.2</li> <li>Problem Set 3 Due: FRED Time Series Analysis</li> </ul>	
Week 12	<ul> <li>Organizing panel data, Graphs with Panels, Fixed Effects Regressions</li> <li>Reading: UPFIE sections 13.1-14.4</li> <li>Data Camp Assignment: Reshaping Data with Pandas (1-2)</li> </ul>	
Week 13	<ul><li>Organizing a Paper or Presentation</li><li>Reading: UPFIE (19.1-19.3)</li></ul>	
Week 14	<ul> <li>Student Presentations</li> <li>Projects Due</li> <li>Additional topics from below if time permits</li> </ul>	
Final Exam Week	- Final Exam	
Time Permitting	- Difference in Differences Regression and Graphics, Probits and Logits in R, Instrumental Variables, Dash Apps	

#### **Ohio State Department Course Review Concurrence Form**

The purpose of this form is to provide a simple system of obtaining departmental reactions to proposed new courses, group studies, study tours, workshop requests, and course changes. A letter may be substituted for this form.

Academic units initiating a request which requires such a reaction should complete Section A of this form and send a copy of the form, course request, and syllabus to each of the academic units that might have related interests in the course. Initiating units should allow at least two weeks for responses.

Academic units receiving this form should response to Section B and return the form to the initiating unit. Overlap of course content and other problems should be resolved by the academic units before forwarding this form and all-other accompanying documentation to the Office of Academic Affairs.

A. Information from academic unit <i>initiating</i> the request:	
Initiating Academic Unit: Economics	Date: 5/24/2024
Registrar's Listing: Economics 4410	
Course Number: Level: U 🏼 P 🗌 G 🗌	Credit Hours: 3
Course Title: Data Management and Econometric Analysis	
Type of Request: 🛛 New Course 🗌 Group Studies 🗌 Workshop Change	□Study Tour □Course
Academic Unit with related interests asked to review the request (use a unit while requesting concurrences from multiple units):Department of S	
Date responses are needed:	
B. Information from academic units <i>reviewing</i> the request	<b>t:</b>
x The academic unit <i>supports</i> the proposal The academic unit <i>does not support</i> the proposal. Please explain:	
The academic unit suggests: Revised to remove similarities with STAT 5731	
Signature of Department Chair Signature of Graduate Studies	s Chair (if applicable)

Hi Rick,

Are you the designated person to submit the course proposal? If yes, please submit the proposal. If not, please let me know who the designated person is in the department.

Thanks,

Huanxing

From: Ruddy, Ryan <ruddy.19@osu.edu>
Sent: Thursday, June 13, 2024 10:21 PM
To: Yang, Huanxing <yang.1041@osu.edu>
Cc: Ye, Lixin <ye.45@osu.edu>; Abito, Mike <abito.1@osu.edu>
Subject: Re: Concurrence request for Econ 4410

Huanxing, (Mike and Lixin)

I updated and attached the syllabus and course rationale to reflect the issues with CSE 1224. The syllabus and course rationale need to be submitted at: <u>https://curriculum.osu.edu/</u>. I do not have access to the site. According to the submission resources site "The official curriculum portal for The Ohio State University, curriculum.osu.edu access is limited to designated faculty and staff members within a department/unit (typically faculty directors and Academic Program Specialists)." All of the necessary information is in the attached documents.

Ryan



Senior Lecturer Department of Economics Assistant Director Sports & Society Initiative Faculty Co-Advisor Sports Analytics Association ruddy.19@osu.edu Office Hours Bookings

From: Yang, Huanxing <yang.1041@osu.edu> Sent: Wednesday, June 12, 2024 10:00 AM To: Ruddy, Ryan <ruddy.19@osu.edu>Cc: Ye, Lixin <ye.45@osu.edu>; Abito, Mike <abito.1@osu.edu>Subject: Fw: Concurrence request for Econ 4410

Hi Ryan,

CSE has not responded to my message on May 31. I assume that it is reluctant concurrence. Please add CSE 1224 as a recommended course in your syllabus, and start the next stage of process (submit the proposal to the college).

Since I will start travelling tomorrow, you can ask Lixin or Mike for help if I do not respond to you in time.

#### Best,

#### Huanxing

From: Yang, Huanxing <yang.1041@osu.edu>
Sent: Friday, May 31, 2024 10:26 AM
To: Sivilotti, Paul <paolo@cse.ohio-state.edu>
Cc: Ye, Lixin <ye.45@osu.edu>; Abito, Mike <abito.1@osu.edu>; Williamson, Donald
<williamson.413@osu.edu>; Fosler-Lussier, Eric <fosler@cse.ohio-state.edu>
Subject: Re: Concurrence request for Econ 4410

Hi Paul and Eric,

Thanks for reviewing the proposal of Econ 4410. Our curriculum committee met and discussed your responses.

First, let me explain again why we are developing this course. It is largely in response to requests from our students and the alumni advisory board. They want a course that gives them the skills to apply the concepts that they learn in their econometrics courses to real world data. Taking such a course would make them more competitive on the job market. We agree with this assessment.

You proposed the idea of making CSE 1224 as a pre-req for Econ 4410. After reviewing the syllabus of 1224, we identified several problems. First, if we add 1224 as a pre-requisite, then we are requiring students to complete 6 credit hours in order to get through the econometric techniques. Many students have tight schedules and time frames that will not allow them to take both courses. Second, it seems that CSE 1224 was designed for engineering students. A significant part of the course covers using Python to solve engineering problems. This is not necessary for Econ students. Our goal is to get our students to the point where they can clean

a raw data set, perform econometric analysis, and report their results. Third, Python is quite easy to learn. Making 1224 a pre-req would be cumbersome for students that have basic Python skills from self-teaching or other sources.

We also had another concern about making CSE 1224 a pre-req. Our BA students are only required to complete Math 1148 (or higher) for their degree. 1148 does not appear to meet the pre-requisites for 1224. 1148 is similar to some of the listed courses though.

As it stands, it makes more sense to make CSE 1224 a recommended course before taking Econ 4410. For example, we can include a statement in the syllabus that states that "the course requires basic pre-requisite knowledge of Python. Those skills are taught in CSE 1224..."

For our students, what they really need is a 1-credit hour basic intro Python course, which teaches the basics of Python. BTW, the Stats department has developed a 1-credit hour intro course of R. If you offer such a course in the future, we would be happy to add it as a pre-req for Econ 4410.

Please let us know your thoughts on the proposed solution: making 1224 a recommended course before taking Econ 4410 for now, and add a 1-credit hour intro Phython course (with lower math requirement) as a pre-req after you develop such a course in the future. We are also open to making adjustments to the material taught in Econ 4410 as situations evolve.

Thanks for your consideration and we are looking forward to your response.

Best, Huanxing

Huanxing Yang Professor and Chair OSU Econ

From: Sivilotti, Paul <paolo@cse.ohio-state.edu>
Sent: Wednesday, May 22, 2024 7:26 PM
To: Yang, Huanxing <yang.1041@osu.edu>
Cc: Ye, Lixin <ye.45@osu.edu>; Abito, Mike <abito.1@osu.edu>; Williamson, Donald
<williamson.413@osu.edu>; Fosler-Lussier, Eric <fosler@cse.ohio-state.edu>
Subject: RE: Concurrence request for Econ 4410

Hi Huanxing—

Thanks for sharing the syllabus for the proposed new course ECON 4410: Data Management and Econometric Analysis. Our curriculum committee met and discussed the proposal.

The projects involve applications and data sets related to econometric data, but, significantly, the course assumes no programming background. Our concern is that, in practice, such a course will necessarily end up involving significant introductory instruction in Python programming--perhaps more than was anticipated in course design. It is easy to under-estimate the time and instruction needed for students to become capable in a programming language like Python, let alone "proficient".

Hence, we can not offer concurrence for the course, as-is. However, we are happy to discuss options... In fact we have some new models under development right now that I believe would be worth discussing further. I am adding to the cc list our Associate Chair, Eric Fosler-Lussier, who is leading those development efforts. I invite you to connect with him to see if those new models might provide a path forward for this proposal.

Alternatively, you could add CSE 1224 as a pre-req (or co-req) for ECON 4410. That would have the benefit of letting you focus in ECON 4410 on the interesting data manipulation and analysis problems in econometrics. There are seats available in CSE 1224 so access wouldn't be a problem. That path is pretty straight forward, but happy to discuss that option further too.

Best wishes, --paul

From: Yang, Huanxing <yang.1041@osu.edu>
Sent: Thursday, May 16, 2024 9:45 AM
To: Sivilotti, Paul <paolo@cse.ohio-state.edu>
Cc: Ye, Lixin <ye.45@osu.edu>; Abito, Mike <abito.1@osu.edu>; Williamson, Donald
<williamson.413@osu.edu>
Subject: Re: Concurrence request for Econ 4410

Hi Paul,

Thanks for letting me know. I will be waiting for the responses from your committee.

Best,

Huanxing

From: Sivilotti, Paul <<u>paolo@cse.ohio-state.edu</u>> Sent: Wednesday, May 15, 2024 2:07 PM To: Yang, Huanxing <<u>yang.1041@osu.edu</u>>
 Cc: Ye, Lixin <<u>ye.45@osu.edu</u>>; Abito, Mike <<u>abito.1@osu.edu</u>>; Williamson, Donald
 <<u>williamson.413@osu.edu</u>>
 Subject: RE: Concurrence request for Econ 4410

Hi Huanxing—

Thanks for the updated syllabus. The change to Python does make it somewhat more complicated from the CSE perspective. (There are generally no concerns with courses that use R, but courses that are introduction-to-programming using Python often have considerable overlap with our existing intro programming courses in Python.)

I will need to circulate this new version with our curriculum committee and get back to you...

Best wishes, --paul

From: Yang, Huanxing <<u>yang.1041@osu.edu</u>>
Sent: Wednesday, May 15, 2024 1:44 PM
To: Arora, Anish <<u>anish@cse.ohio-state.edu</u>>; Sivilotti, Paul <<u>paolo@cse.ohio-state.edu</u>>;
Cc: Vankeerbergen, Bernadette <<u>vankeerbergen.1@osu.edu</u>>; Ye, Lixin <<u>ve.45@osu.edu</u>>; Abito,
Mike <<u>abito.1@osu.edu</u>>
Subject: Re: Concurrence request for Econ 4410

Dear Anish,

Based on the response from the Stats Department, we have changed the proposal of Econ 4410: it now focuses on using Python instead of R. The revised proposal and syllabus are attached.

Please review the revised proposal and email your responses/concurrences to me. *Responses are due by* <u>*Thursday, May 23, 2024*</u>. Please note that if the Department of Economics does not hear back from you by that date, concurrence will be assumed.

Thank you for your consideration, Huanxing

Huanxing Yang Professor and Chair OSU Econ Sent: Thursday, May 9, 2024 11:40 AM
To: Yang, Huanxing <<u>yang.1041@osu.edu</u>>; Sivilotti, Paul <<u>paolo@cse.ohio-state.edu</u>>
Cc: Vankeerbergen, Bernadette <<u>vankeerbergen.1@osu.edu</u>>; Ye, Lixin <<u>ye.45@osu.edu</u>>; Abito,
Mike <<u>abito.1@osu.edu</u>>
Subject: RE: Concurrence request for Econ 4410

Dear Huanxing,

Our Curriculum Committee will work through its process to clarify and respond to this request. Since we are starting summer, our curriculum chair Prof. Paul Sivilotti will be in touch with you with questions and timeline issues should they arise.

With best wishes, Anish

----

Anish Arora Professor and Chair, Computer Science and Engineering Faculty Director, 5G-OH Connectivity Center <u>arora.9@osu.edu</u>

Ingrid Rivera Executive Assistant rivera.153@osu.edu 614-292-5973 Office THE OHIO STATE UNIVERSITY

From: Yang, Huanxing <<u>yang.1041@osu.edu</u>>
Sent: Thursday, May 9, 2024 11:22 AM
To: Arora, Anish <<u>anish@cse.ohio-state.edu</u>>
Cc: Vankeerbergen, Bernadette <<u>vankeerbergen.1@osu.edu</u>>; Ye, Lixin <<u>ve.45@osu.edu</u>>; Abito,
Mike <<u>abito.1@osu.edu</u>>
Subject: Concurrence request for Econ 4410

Dear Anish,

I am contacting you regarding a new course proposal, as you are the chair of CSE.

Please find attached a proposal for new course Econ 4410 "Data Management and Econometric Analysis." The Department of Economics is requesting concurrence for the proposed new course. Please email your responses/concurrences to me. *Responses are due by* **Thursday, May 23, 2024**. Please note that if the Department of Economics does not hear back from you by that date, concurrence will be assumed.

Best, Huanxing

Huanxing Yang Professor and Chair OSU Econ