Course Syllabus for HRD 6352
Structural Equation Modeling

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Preferred Mode of Communication: 1. Canvas Discussion, 2. Canvas Email, 3. Text
Open Office Hour: Thursdays, 8:00 p.m.
Virtual Office Hours: https://calendly.com/kimnimon and by appointment

Course Overview

Course Description:
This course covers an advanced set of quantitative statistical analyses that are key to creating new knowledge in human resource development. Students will learn how to interpret, conduct, and report select structural equation models.

Learning Outcomes:
At the conclusion of the course, learners will be able to:
1. Understand zero order, semi-partial, and partial correlation calculation and interpretation.
2. Understand terms common to regression analysis.
3. Be able to compute and interpret regression analysis output.
4. Understand path coefficient calculation and interpretation.
5. Understand path models and terms common to path analysis.
6. Be able to compute and interpret path analysis output.
7. Understand factor loadings, pattern and structure matrices calculation and interpretation.
8. Understand factor models and terms common to factor analysis.
9. Be able to compute and interpret factor analysis output.
10. Understand structural weights calculation and interpretation.
11. Understand terms and models common to structural equation model analysis.
12. Be able to compute and interpret structural equation model analysis output.
13. Test for model fit in regression, path, factor, and structural equation model analyses.
14. Be able to use computer software to conduct regression, path, factor, and structural equation model analyses.

Instructional Mode:
This course is a 3-credit hybrid class where students are expected to spend 9 hours on average/week on learning activities such as reading, writing, analyzing data, and studying, depending on their individual learning styles and unit assignments.

Required Software:

- IBM® SPSS® Statistics Standard GradPack 29 (remote access at https://one.uttyler.edu; available at http://www.onthehub.com/spss/)
- IBM® SPSS® AMOS 29 (available at http://www.onthehub.com/spss/)

Required Texts:

American Psychological Association. (2019). *Publication manual of the American Psychological Association* (7th ed.). American Psychological Association.

Grimm, L. G., & Yarnold, P. R. (2000). *Reading and understanding MORE multivariate statistics*. American Psychological Association.

Hair, J. E., Black, W. C., Babin, B. J., & Anderson, R. E. (2018). *Multivariate data analysis* (8th ed.). Cengage.

Kline, R. B. (2023). *Principles and practice of structural equation modeling* (5th ed.). Guilford.

Schumacker, R. E., & Lomax, R. G. (2016). *A beginner's guide to structural equation modeling* (4th ed.). Routledge.

Recommended Texts:

Boyle, G. J., Saklofske, D. H., & Matthews, G. (Eds.) (2015). *Measures of personality and social psychological constructs*. Academic Press. [Available here free of charge.]

Brown, T. A. (2015). *Confirmatory factor analysis for applied research*. Guilford Publications.

Byrne, B. M. (2016). Structural equation modeling with AMOS: Basic concepts, applications, and programming (3rd ed.). Routledge.

Crawley, M. J. (2013). *The R Book* (2nd ed.). John Wiley and Sons. [Available here free of charge.]

Creswell, J. W. (2022). *Research design: Qualitative, quantitative, and mixed methods approaches* (6th ed.). Sage.

Fields, D. L. (2013). *Taking the measure of work: A guide to validated scales for organizational research and diagnosis.* Sage. [Available here free of charge.]

Fowler, F. J. Jr. (2014). *Survey Research Methods* (5th ed.). Sage.

Thompson (2004). *Exploratory and confirmatory factor analysis.* American Psychological Association.

Course Schedule:

This is the preliminary course schedule. If an unexpected reason arises that requires a schedule change, students will be informed of the necessary change through a Canvas Course announcement.

Module # Module Name (Beginning of Week)	Module Work	Final Project
1. Introduction (8/25)*	10 pts	
2. Class Meeting 1 (9/1)		
3. SEM Basics & Model Fit (9/8)*	20 pts	
4. Regression Models (9/15)	20 pts	

Module # Module Name (Beginning of Week)	Module Work	Final Project	
5. Class Meeting 2 (9/22)			
6. Path Models (9/29)	20 pts		
7. Construct Validity (10/6)**	20 pts		
8. Class Meeting 3 (10/13)			
9. Structural Equation Models (10/20)	20 pts		
10. SEM Learner Selected Adhoc Analysis (10/27)			
11. Class Meeting 4 (11/03)			
12. SEM Learner Selected Adhoc Analysis (11/10)			
13. Final Project (11/17)		Final Paper Draft	10 pts
Thanksgiving			
14. Class Meeting 5 (12/1)		Oral Exam Project Presentation	50 pts 20 pts
15. Final Project & Sample Size	20 pts	Final Paper	110 pts
Total	130 pts		190 pts

Note. *Pilot learner provided dataset is beneficial for this week's assignment. **Complete learner provided dataset needed for this and remaining weeks' assignments.

Class Meeting Schedule

#	Date	Topics
1	09/05	Facilitator Presentation • Course Overview Student Presentations • Project Proposals
2	09/26	Student Presentations • Regression Models Facilitator Presentation • Path Models & CFA
3	10/17	Student Presentations • CFA Facilitator Presentation • Structural Equation Models
4	11/07	Student Presentations • Structural Equation Models Facilitator Presentation • Final Project
5	12/05	Student Presentations • Final Project

Course Assignment Overview

Course Assignment Procedures

- Assignments must be submitted by 3:00 p.m. Central time, unless otherwise noted in Canvas.
- Written assignments should be typed and adhere to the current APA style guidelines.
- Please upload your assignments to Canvas; email submissions will not be accepted.
- Files should be in native form (e.g., docx, .R, .SPS), unless specified differently.
- This syllabus and assignment due dates may change, with any updates communicated by the instructor through Canvas or University email.
- See Canvas for additional details.

Course Assignment Description

- **Module Work:** Each unit features a particular learning activity aligned with its objectives. The specific project varies between units. These are regular, smaller assignments designed to promote a consistent and interactive learning experience. The intent is to not only evaluate understanding but also to provide an environment for active student participation, critical reflection, and applying concepts within your research and professional settings.
- **Final Project:** This assignment gives you an opportunity to conduct a research study applying Structural Equation Modeling, write a research paper from beginning to end including the Introduction, Methods, Results, and Conclusion, demonstrate knowledge through an oral example, and present the study consistent with AHRD presentation guidelines.

Course Evaluation

Component	Points
Module Activities	130
Final Project	190
Total	320

A = 90% – 100% B = 80% – 89% C = 70% – 79% D = 60% – 69% F = < 60%

Course Policies

Students are responsible for knowing and adhering to all university-wide and school-specific policies and procedures. These include, but are not limited to, policies on academic integrity, student conduct, attendance, disability services, and grievance procedures. It is your responsibility to familiarize yourself with these regulations, which are detailed in official university and school publications and websites.
Additional course-specific policies are outlined in this syllabus.

Academic Dishonesty Statement

The faculty expects from its students a high level of responsibility and academic honesty. Because the value of an academic degree depends upon the absolute integrity of the work done by the student for that degree, it is imperative that a student

demonstrates a high standard of individual honor in his or her scholastic work.

Scholastic dishonesty includes, but is not limited to, statements, acts or omissions related to applications for enrollment of the award of a degree, and/or the submission, as one's own work of material that is not one's own. As a general rule, scholastic dishonesty involves one of the following acts: cheating, plagiarism, collusion and/or falsifying academic records. Students suspected of academic dishonesty are subject to disciplinary proceedings.

University regulations require the instructor to report all suspected cases of academic dishonesty to the Dean of Students for disciplinary action. In the event disciplinary measures are imposed on the student, it becomes part of the students' official school records. Also, please note that the handbook obligates you to report all observed cases of academic dishonesty to the instructor.

Plagiarism will not be tolerated, and learners should be aware that all written course assignments will be checked by Plagiarism detection software. Violations of academic integrity will be reported and processed according to the guidelines established by the University.

APA
All required course activities should follow the current APA guidelines.

Artificial Intelligence
UT Tyler is committed to exploring and using artificial intelligence (AI) tools as appropriate for the discipline and task undertaken. We encourage discussing AI tools' ethical, societal, philosophical, and disciplinary implications. All uses of AI should be acknowledged as this aligns with our commitment to honor and integrity, as noted in UT Tyler's Honor Code. Faculty and students must not use protected information, data, or copyrighted materials when using any AI tool. Additionally, users should be aware that AI tools rely on predictive models to generate content that may appear correct but is sometimes shown to be incomplete, inaccurate, taken without attribution from other sources, and/or biased. Consequently, an AI tool should not be considered a substitute for traditional approaches to research. You are ultimately responsible for the quality and content of the information you submit. Misusing AI tools that violate the guidelines specified for this course (see below) is considered a breach of academic integrity. The student will be subject to disciplinary actions as outlined in UT Tyler's Academic Integrity Policy.

For this course, *AI is permitted only for specific assignments or situations, and appropriate acknowledgment is required.* This course has specific assignments where artificial intelligence (AI) tools (such as ChatGPT or Copilot) are permitted and encouraged. When AI use is permissible, it will be clearly stated in the assignment directions, and all use of AI must be appropriately acknowledged and cited. Otherwise, the default is that AI is not allowed during any stage of an assignment.

Assignment Resubmission
Assignments that receive less than 70% may be resubmitted and reevaluated pending the following conditions:

a. Original submission was not assigned a grade of 0.
b. Resubmissions are submitted within one week of the date that the original grade was assigned.
c. Resubmission includes all files identified on assignment directions.
d. Resubmissions clearly indicate what has changed since the original submission (e.g., tracked changes in MS Word).
e. Resubmission includes a separate file that provides the graded rubric as well as an additional column that indicates how the assignment was changed based on the feedback provided.

Resubmitted assignments may only receive a maximum of 70% credit. Work submitted during final week may not be resubmitted.

Bonus Points
Participation in "Get Started" is worth 1 bonus point if substantive post and substantive reply is posted by the due date. Participation in "Peer Review" is worth 1 bonus point if post of student's own work and review of peer's work is posted by due date. Bonus points are only awarded if all other module work (e.g., quizzes, assignments) has been completed and/or submitted and is not late.

Classroom Climate
An open exchange of ideas is vital for learning. Be mindful of your contributions in class, refrain from dominating discussions, and interact with your classmates. I aim to cultivate an environment where every student can engage fully, in a respectful and sensitive manner. Please communicate any concerns you may have promptly.

Copyright Policy and Intellectual Property
This course, along with its materials such as lectures, assignments, quizzes, exams, and multimedia content, belongs to the instructor and/or the University. These resources are intended solely for your personal use within this course. Students are strictly forbidden from:

- Distributing, publishing, or uploading any course materials to public or commercial websites or other unauthorized platforms.
- Selling or reproducing course materials for commercial purposes.
- Sharing course materials with individuals not enrolled in this course.

Any unauthorized distribution or reproduction of copyrighted course materials violates federal copyright law and university policy. Such conduct may also breach the university's academic integrity policies, potentially resulting in disciplinary or university sanctions.

Course Communication
Course related communication happens through the following channels on Canvas. Subscribe to get them through your University email. Remember to check these channels daily.

- Class Announcements
- Discussion Posts: Please use the most relevant discussion forum when you have questions or concerns about the course as other learners are likely to benefit from the information exchanged.
- Assignment Feedback: Assignment feedback will be provided on Canvas.
- Canvas Email: Feel free to email me with any questions, concerns, or feedback you have that you are not comfortable posting on Canvas. I will generally respond to emails within 24-48 business hours.

Grading Feedback and Scores (Assignments)
Your instructor is committed to providing timely feedback on coursework, with a typical turnaround time of 48 to 72 business hours from the assignment's due date. Should you require additional feedback or clarification, please do not hesitate to contact your professor via email.

If you believe there is an error in a graded assignment, you must contact your professor within three business days of the grade's publication to initiate a dispute. Be aware that a grade dispute entails a comprehensive reassessment of the entire assignment, which may result in the original score being raised, lowered, or remaining the same.

Late Work
Work due on Sundays will not be counted late if submitted within 48 hours of due date/time. No credit will be given for late assignments unless the learner's provider and/or UT Tyler's system prevents the student from submitting a discussion post, assignment, or quiz. The student is responsible for contacting the instructor, providing evidence of the outage and submitting any missed work within 24 hours of resolution of any system outage. *Students may request to take a comprehensive exam to replace grades of 0 for quizzes and/or to use their final project draft grade to replace grades of 0 for assignments, up to 70%. Such requests must be made by the Thursday of the 15th week of class.*

Recordings and Photos
Videos, audio recordings, or photographs of any class activities, including during office hours, are not allowed unless the instructor gives permission.

Soules College of Business Statement of Ethics
The ethical problems facing local, national, and global business communities are an ever-increasing challenge. It is essential the Soules College of Business helps students prepare for lives of personal integrity, responsible citizenship, and public service. In order to accomplish these goals, both students and faculty of the Soules College of Business at The University of Texas at Tyler will:
- Ensure honesty in all behavior, never cheating or knowingly giving false information.
- Create an atmosphere of mutual respect for all students and faculty regardless of race, creed,
  gender, age, or religion.
- Develop an environment conducive to learning.

- Encourage and support student organizations and activities.
- Protect property and personal information from theft, damage, and misuse.
- Conduct yourself in a professional manner both on and off campus.

Student Standards of Academic Conduct

Disciplinary proceedings may be initiated against any student who engages in scholastic dishonesty, including, but not limited to, cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts.

i. "Cheating" includes, but is not limited to:
   - copying from another student's test paper;
   - using, during a test, materials not authorized by the person giving the test;
   - failure to comply with instructions given by the person administering the test;
   - possession during a test of materials which are not authorized by the person giving the test, such as class notes or specifically designed "crib notes". The presence of textbooks constitutes a violation if they have been specifically prohibited by the person administering the test;
   - using, buying, stealing, transporting, or soliciting in whole or part the contents of an unadministered test, test key, homework solution, or computer program;
   - collaborating with or seeking aid from another student during a test or other assignment without authority;
   - discussing the contents of an examination with another student who will take the examination;
   - divulging the contents of an examination, for the purpose of preserving questions for use by another, when the instructors has designated that the examination is not to be removed from the examination room or not to be returned or to be kept by the student;
   - substituting for another person, or permitting another person to substitute for oneself to take a course, a test, or any course-related assignment;
   - paying or offering money or other valuable thing to, or coercing another person to obtain an unadministered test, test key, homework solution, or computer program or information about an unadministered test, test key, home solution or computer program;
   - falsifying research data, laboratory reports, and/or other academic work offered for credit;
   - taking, keeping, misplacing, or damaging the property of The University of Texas at Tyler, or of another, if the student knows or reasonably should know that an unfair academic advantage would be gained by such conduct; and
   - misrepresenting facts, including providing false grades or resumes, for the purpose of obtaining an academic or financial benefit or injuring another student academically or financially.

ii. "Plagiarism" includes, but is not limited to, the appropriation, buying, receiving as a gift, or obtaining by any means another's work and the submission of it as one's own academic work offered for credit.

iii. "Collusion" includes, but is not limited to, the unauthorized collaboration with

another person in preparing academic assignments offered for credit or collaboration with another person to commit a violation of any section of the rules on scholastic dishonesty.

iv. All written work that is submitted will be subject to review by plagiarism software.

Technical Issues

Make sure to submit assignments ahead of the deadline to prepare for possible technical difficulties.

University Policies and Information

For University policies and information, please see the UT Tyler Syllabus Module in Canvas.

Writing Assistance

Even skilled writers can always enhance their abilities. Utilize the university resources offered to students. The Writing Center provides support for writing and editing.