

**HRD 6352 – Structural Equation Modeling
Course Syllabus (Rev A)**

Contact Information

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Preferred Contact Method:	Canvas Discussion Board for non-personal issues Canvas e-mail for personal issues

Credit Hours

3 semester hours

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.

Course Philosophy

Learning quantitative statistical analyses is similar to learning a new language. There are often words that are hard to pronounce, difficult to remember, and may have similar meanings. However, by continually practicing the new language through observation, reading, and writing, learners have the opportunity to pick up the language quickly and sound like a native speaker. Therefore, this course has weekly assignments to give learners the opportunity to regularly practice the new language of quantitative statistical analyses. Learners will be expected to work individually and will be offered opportunities to facilitate peer learning. To facilitate a safe learning environment, learners will have opportunities to build from mistakes as they practice the new language of structural equation modeling.

Grading Philosophy

I understand that the process of receiving grades can inhibit the learning process. I endeavor to create a safe learning environment. As part of that environment, you have several opportunities to maintain a high grade in the course, including:

- Two attempts at each module quiz, where you receive the highest grade of the attempts made
- Opportunity to resubmit attempted module assignments
- Bonus points opportunity for each module

HRD 6352 – Structural Equation Modeling Course Syllabus (Rev A)

- An assignment that allows you to submit a draft version of your final paper
- Feedback provided on assignments turned in late
- End of semester provisions to replace grades assigned 0 because work was not turned in or late

It is possible to get to the end of the semester with a very high grade that can be drastically reduced based on your performance on the final project. The idea is that by the end of the semester, you should have the requisite knowledge and skills to perform at a higher level than when you were first learning the material. Therefore, the grading of the final project is less lenient than the grading of the module assignments.

Course Design

The course was designed according to the 4MAT method. According to Bernice McCarthy, developer of the 4MAT system, there are four major learning styles, each of which asks different questions and displays different strengths during the learning process. The course has 7 learning modules, each with four sections except for the final module that contains three sections. Learning modules begin with a “getting started” activity to answer *why*. To answer *what*, learners will read a chapter from the required text and/or published articles and test their knowledge over the required reading via quizzes. To answer *how*, learners will complete the necessary steps to conduct, interpret, and/or report on a particular statistical analysis. To answer *if*, learners will have the opportunity to conduct peer reviews and provide constructive feedback on module activities.

Course Objectives

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.

Required Software

- IBM® SPSS® Statistics Standard GradPack 27 (Available at <http://www.onthehub.com/spss/>)
- IBM® SPSS® AMOS 27 (Available at <http://www.onthehub.com/spss/>)
- MAC users may need to purchase a virtual machine (e.g., VMWare Fusion) and Windows so that they can run Windows programs (e.g., AMOS).

Required Texts

- American Psychological Association. (2019). *Publication manual of the American Psychological Association* (7th ed.). Washington, DC: Author.
- Grimm, L. G., & Yarnold, P. R. (2000). *Reading and understanding MORE multivariate statistics*. Washington, DC: American Psychological Association.
- Hair, J. E., Black, W. C., Babin, B. J., & Anderson, R. E. (2018). *Multivariate data analysis*. (8th ed.). Upper Saddle River, NJ: Prentice-Hall.

**HRD 6352 – Structural Equation Modeling
Course Syllabus (Rev A)**

Kline, R. B. (2016). *Principles and practice of structural equation modeling* (4th ed.). New York: Guilford.

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

Recommended Texts

Boyle, G. J., Saklofske, D. H., & Matthews, G. (Eds.) (2015). *Measures of personality and social psychological constructs*. London: Academic Press.

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

Byrne, B. M. (2010). *Structural equation modeling with AMOS: Basic concepts, applications, and programming* (2nd ed.). New York: Routledge.

Crawley, M. J. (2013). *The R Book* (2nd ed.). West Sussex, England: John Wiley and Sons.

Creswell, J. W. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). Thousand Oaks, CA: Sage.

Fields, D. L. (2013). *Taking the measure of work: A guide to validated scales for organizational research and diagnosis*. Thousand Oaks, CA: Sage.

Fowler, F. J. Jr. (2014). *Survey Research Methods* (4th ed.). Thousand Oaks, CA: Sage.

Thompson (2004). *Exploratory and confirmatory factor analysis*. Washington, DC: APA.

Course Evaluation

Component	Points
Module Quizzes	70 (7 @ 10 points each)
Module Activities	70 (7 @ 10 points each)
Final Project	140
Total	280

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

Class Meeting Schedule

#	Date	Topics
1	09/05	Facilitator Presentations <ul style="list-style-type: none"> • Course Overview Student Presentations <ul style="list-style-type: none"> • Project Proposals
2	09/26	Student Presentations <ul style="list-style-type: none"> • Regression Models Facilitator Presentation <ul style="list-style-type: none"> • Path Models & CFA
3	10/17	Student Presentations <ul style="list-style-type: none"> • CFA Facilitator Presentation <ul style="list-style-type: none"> • Structural Equation Models
4	11/07	Student Presentations <ul style="list-style-type: none"> • Structural Equation Models Facilitator Presentation <ul style="list-style-type: none"> • Final Project
5	12/05	Student Presentations <ul style="list-style-type: none"> • Final Project

Note. Class meetings held from 8:00 to noon in COB 251. Topics may flex in order to meet learner needs.

**HRD 6352 – Structural Equation Modeling
Course Syllabus (Rev A)**

Course Schedule

Wk	Module	Getting Started^a	Quiz	Assignment	Peer Review^b
1*	Introduction	1 (08/30)	10 (08/30)	10 (08/30)	1 (09/06)
2	Class Meeting 1 (9/5)				
3*	SEM Basics & Model Fit	1 (09/13)	10 (09/13)	10 (09/13)	1 (09/20)
4	Regression Models	1 (09/20)	10 (09/20)	10 (09/20)	1 (09/27)
5	Class Meeting 2 (9/26)				
6	Path Models	1 (10/04)	10 (10/04)	10 (10/04)	1 (10/11)
7**	Construct Validity	1 (10/11)	10 (10/11)	10 (10/11)	1 (10/18)
8	Class Meeting 3 (10/17)				
9	Structural Equation Models	1 (10/25)	10 (10/25)	10 (10/25)	1 (11/01)
10	SEM Learner Selected Adhoc Analysis				
11	Class Meeting 4 (11/07)				
12	SEM Learner Selected Adhoc Analysis				
13	Final Project Draft			10 (11/22)	1 (11/29)
14	Thanksgiving				
15	Class Meeting 5 (12/05) Final Project Presentation			20 (12/05)	
16	Final Project Sample Size	1 (12/12)	10 (12/12)	110 (12/10) 10 (12/12)	
	Total	<i>7 bonus</i>	70	210	<i>7 bonus</i>

Note. Course schedule may be adapted during the semester to meet learner needs. Bolded numbers indicate maximum possible point value. Work due on Sundays will not be counted late if submitted within 48 hours of due date/time. ^aParticipation in *getting started* is worth 1 bonus point if substantive post and reply is posted by the due date. ^bParticipation in *peer review* is worth 1 bonus point if post of student's own work (.5 pt) and review of peer's work is posted by due date (.5 pt). Bonus points are only awarded if all other module work (e.g., quiz, assignments) has been completed and/or submitted and is not late. *Pilot learner provided dataset is beneficial for this week's assignment. **Complete learner provided dataset needed for this and remaining weeks' assignments.

Course Policies:

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.

Class Meeting Attendance

Attendance at all five class sessions is expected and required for the accomplishment of course objectives. It is expected that learners will attend all class meetings in light of the condensed executive format. The

HRD 6352 – Structural Equation Modeling Course Syllabus (Rev A)

facilitator recognizes that learners may have special issues and responsibilities that may impact attendance, however regular attendance is expected. If absences occur, the learner is responsible for contacting the facilitator in advance so that adjustments can be made to the instructional activities planned for a specific session. The learner is also responsible for all work that is missed due to the absence from any class meeting, or portion thereof.

Late Work

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, other than peer reviews and getting started activities up to 70%. Such requests must be made by the Thursday of the 15th week of class.**

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 the guidelines established by the University.

University Policies:

The University of Texas at Tyler Honor Code

Every member of the UT Tyler community joins together to embrace: Honor and integrity that will not allow me to lie, cheat, or steal, nor to accept the actions of those who do.

Students Rights and Responsibilities

To know and understand the policies that affect your rights and responsibilities as a student at UT Tyler, please follow this link: <https://www.uttyler.edu/wellness/rightsresponsibilities.php>

Campus Carry

We respect the right and privacy of students who are duly licensed to carry concealed weapons in this class. License holders are expected to behave responsibly and keep a handgun secure and concealed. More information is available at <http://www.uttyler.edu/about/campus-carry/index.php>

HRD 6352 – Structural Equation Modeling Course Syllabus (Rev A)

UT Tyler a Tobacco-Free University

- All forms of tobacco will not be permitted on the UT Tyler main campus, branch campuses, and any property owned by UT Tyler. This applies to all members of the University community, including students, faculty, staff, University affiliates, contractors, and visitors.
- Forms of tobacco not permitted include cigarettes, cigars, pipes, water pipes (hookah), bidis, kreteks, electronic cigarettes, smokeless tobacco, snuff, chewing tobacco, and all other tobacco products.
- There are several cessation programs available to students looking to quit smoking, including counseling, quitlines, and group support. For more information on cessation programs please visit www.uttyler.edu/tobacco-free.

Grade Replacement/Forgiveness

Students repeating a course for grade forgiveness (grade replacement) must file a Grade Replacement Contract with the Enrollment Services Center (ADM 230) on or before the Census Date of the semester in which the course will be repeated. (For Spring, the Census Date is Sept 4). Grade Replacement Contracts are available in the Enrollment Services Center or at <http://www.uttyler.edu/registrar>. Each semester's Census Date can be found on the Contract itself, on the Academic Calendar, or in the information pamphlets published each semester by the Office of the Registrar.

Census Date Policies

The Census Date (Sept 4) is the deadline for many forms and enrollment actions that students need to be aware of. These include:

- Submitting Grade Replacement Contracts, Transient Forms, requests to withhold directory information, approvals for taking courses as Audit, Pass/Fail, or Credit/No Credit.
- Receiving 100% refunds for partial withdrawals. (There is no refund for these after the Census Date)
- Schedule adjustments (section changes, adding a new class, dropping without a “W” grade)
- Being reinstated or re-enrolled in classes after being dropped for non-payment
- Completing the process for tuition exemptions or waivers through Financial Aid

State-Mandated Course Drop Policy

Texas law prohibits a student who began college for the first time in Fall 2007 or thereafter from dropping more than six courses during their entire undergraduate career. This includes courses dropped at another 2-year or 4-year Texas public college or university. For purposes of this rule, a dropped course is any course that is dropped after the census date (See Academic Calendar for the specific date).

Exceptions to the 6-drop rule may be found in the catalog. Petitions for exemptions must be submitted to the Enrollment Services Center and must be accompanied by documentation of the extenuating circumstance. Please contact the Enrollment Services Center if you have any questions.

Disability/Accessibility Services

In accordance with Section 504 of the Rehabilitation Act, Americans with Disabilities Act (ADA) and the ADA Amendments Act (ADAAA) the University of Tyler at Texas offers accommodations to students with learning, physical and/or psychological disabilities. If you have a disability, including non-visible a diagnosis such as a learning disorder, chronic illness, TBI, PTSD, ADHD, or you have a history of modifications or accommodations in a previous educational environment, you are encouraged to visit <https://hood.accessiblelearning.com/UTTyler> and fill out the New Student application. The Student Accessibility and Resources (SAR) office will contact you when your application has been submitted and an appointment with an Accessibility Case Manager. For more information, including filling out an application for services, please visit the SAR webpage at <http://www.uttyler.edu/disabilityservices>, the SAR office located in the University Center, # 3150 or call 903.566.7079.

HRD 6352 – Structural Equation Modeling Course Syllabus (Rev A)

Student Absence due to Religious Observance

Students who anticipate being absent from class due to a religious observance are requested to inform the instructor of such absences by the second class meeting of the semester.

Student Absence for University-Sponsored Events and Activities

If you intend to be absent for a university-sponsored event or activity, you (or the event sponsor) must notify the instructor at least two weeks prior to the date of the planned absence. At that time the instructor will set a date and time when make-up assignments will be completed.

Social Security and FERPA Statement

It is the policy of The University of Texas at Tyler to protect the confidential nature of social security numbers. The University has changed its computer programming so that all students have an identification number. The electronic transmission of grades (e.g., via e-mail) risks violation of the Family Educational Rights and Privacy Act; grades will not be transmitted electronically.

Emergency Exits and Evacuation

Everyone is required to exit the building when a fire alarm goes off. Follow your instructor's directions regarding the appropriate exit. If you require assistance during an evacuation, inform your instructor in the first week of class. Do not re-enter the building unless given permission by University Police, Fire department, or Fire Prevention Services.

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

HRD 6352 – Structural Equation Modeling Course Syllabus (Rev A)

- 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.

UT Tyler Resources for Students

- UT Tyler Writing Center (903.565.5995), writingcenter@uttyler.edu
- UT Tyler Tutoring Center (903.565.5964), tutoring@uttyler.edu
- The Mathematics Learning Center, RBN 4021, this is the open access computer lab for math students, with tutors on duty to assist students who are enrolled in early-career courses.
- UT Tyler Counseling Center (903.566.7254)

Important Covid-19 Information for Classrooms and Laboratories

Students are required to wear face masks covering their nose and mouth, and follow social distancing guidelines, at all times in public settings (including classrooms and laboratories), as specified by [Procedures for Fall 2020 Return to Normal Operations](#). The UT Tyler community of Patriots views adoption of these practices consistent with its [Honor Code](#) and a sign of good citizenship and respectful care of fellow classmates, faculty, and staff.

Students who are feeling ill or experiencing symptoms such as sneezing, coughing, or a higher than normal temperature will be excused from class and should stay at home and may join the class remotely. Students who have difficulty adhering to the Covid-19 safety policies for health reasons are also encouraged to join the class remotely. Students needing additional accommodations may contact the Office of Student Accessibility and Resources at University Center 3150, or call (903) 566-7079 or email saroffice@uttyler.edu.

Recording of Class Sessions

Class sessions may be recorded by the instructor for use by students enrolled in this course. Recordings that contain personally identifiable information or other information subject to FERPA shall not be shared with individuals not enrolled in this course unless appropriate consent is obtained from all relevant students. Class recordings are reserved only for the use of students enrolled in the course and only for educational purposes. Course recordings should not be shared outside of the course in any form without express permission.

**HRD 6352 – Structural Equation Modeling
Course Syllabus (Rev A)**

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 College of Business and Technology help students prepare for lives of personal integrity, responsible citizenship, and public service. In order to accomplish these goals, both students and faculty of the College of Business and Technology 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.