

Graduate Distance Education Program: Medication Therapy Management (MTM)

COURSE SYLLABI GUIDE

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1) General Course Policies

The following are the general course policies that applies to all of the UF MS-MTM distance education courses.

a) Getting Started

Review the course syllabus and familiarize yourself with the Canvas course site. Each course consists of 6-7 modules. Begin by navigating to module 1 and review the course material and complete the corresponding assignments and discussion board posts. If you have any questions regarding how to get started, email the course instructor.

b) Attendance Policy

All courses within the MS-MTM program are online. There are no required live meeting times in the MS-MTM curriculum with the exception of the final Capstone course. Excused absences are consistent with university policies in the Graduate Catalog ([UF Graduate Catalog - Attendance Policy](#)) and require appropriate documentation if applicable. Additional information can be found here: [UF Student Attendance Policy](#)

c) Communication

i) Course Communication

The primary means of communication regarding course questions in the online MS-MTM program is through the discussion board. There is a discussion board for each module and/or topic covered. Any question that pertains to course material should be posted on the corresponding discussion board. The course coordinator and/or facilitator will answer the course questions or will reach out to the appropriate faculty member for answers if needed. Students should not reach out to the lecturing faculty directly for questions. If there are any questions that are personal in nature, email the course coordinator/facilitator directly.

ii) Canvas Announcements

The course instructors will post course-related announcement in Canvas. It is imperative that you read the announcements frequently. You can select to have the Canvas announcements sent to your UF email as well. This can be changed by clicking on your Canvas account and then selecting “Notifications” and selecting the appropriate setting.

iii) UF Email

Students should check their UF email regularly for announcements from Canvas and from UF distance education services regarding enrollment and deadlines. Any email communication to the course facilitator, course coordinator, or program direction should be done using your UF email.

iv) Technical Help

In the event that you have technician difficulties, do not hesitate to reach out for assistance. Do not spend extra time trying to troubleshoot on your own.

If you need assistance, email the course coordinator AND the MTM support team at mtmsupport@ahc.ufl.edu.

d) Discussion Board Policy

Online Discussion Participation: Discussion Boards are a key part of this online course. Review all module content prior to posting. Then familiarize yourself with the discussion board scenario/question and post your initial discussion item. While you are graded on our overall participation each week, ***you are required to complete each week's discussion post and reply to a minimum of one other post on that week's group board (excluding week 1 where replies are not required)***. You must submit your initial post before you respond to your classmates' contributions. You will not be able to edit your post, so take time to ensure your post is complete for submission before you officially post.

Discussion Boards will be graded on the following criteria:

Content, Contribution of Original Thought, Connection to Course Material, and Spelling and Grammar. Discussion posts should address all questions in that week's prompt (you can separate sections by question # or write all answers in a narrative form, just be clear to indicate that you've answered all questions), and you should end your post in a way that engages the class in discussion (e.g., ending with a question to the group that will generate interesting discussion about the topic and must demonstrate critical thinking related to the week's readings/content). Appropriate questions include those that 1) seek clarity on course material; 2) relate the course material to other health issues or topics that have been previously discussed; 3) provide the basis for further investigation that would build on the readings; 4) generate interesting course discussion. Please consult the rubric posted on eLearning for an outline of what we are looking for in the discussion posts and how they will be scored.

e) Important Course Dates

Important course dates can be found in the syllabi and on the course website. There is a calendar feature built into Canvas that can be utilized to view assignment due dates. Students can quickly see the due dates for all course requirements by clicking on the "Syllabus" option in the navigation tool bar. It is also recommended to use your own personal calendar or UF Outlook Calendar to enter important dates and use as a time management tool.

For other important dates – [Online MS-MTM Program Critical Dates](#)

f) Lectures and Required Readings

i) Lectures

Each module contains lectures that cover the corresponding materials. It is expected that the students view all lectures for each module before completing the module assignments and/or quizzes/tests. A listing of the required lectures can be found in the module on Canvas and in the course syllabi.

ii) Required Readings and Materials

Each lecturer may assign required reading from the required course text or from an alternate source, such as disease state guidelines. The information regarding required and supplemental reading materials is listed in the course syllabi as well as in each module. The online MS-MTM program utilizes some textbooks that are available online at no charge to the students through the UF library.

To access the UF libraries from off-campus, students must login to the virtual private network (VPN): [UF Library Resources VPN](#)

g) Quiz/Exam Policy

i) Online Examinations

The quizzes, midterm, and final examination will be administered online. Online examinations may consist of multiple choice, short answer and/or case-based questions. Thus, online examinations necessitate skills in typing and using a computer. If you do not have strong keyboard skills, please do not delay in contacting the course coordinator. With early intervention, you can be directed to staff

members who are equipped to review your needs. Please note that it takes time to build these skills and this is not something that can be done at the last minute. To maintain the highest standards of academic integrity, high stakes online examinations may require the use of a proctoring system.

ii) *Missing Exams and Make-Up Exam Policy*

Scheduled exams should only be missed for REAL EMERGENCIES. A student who misses an exam should notify the course coordinator via email within 24 hours. Students with an excused absence may be allowed to take a make-up exam. Make-up exams should be arranged with the course coordinator and administered within two weeks of the original exam date.

iii) *Posting of Exam Grades*

Exam grades will be posted on Canvas within one week of the exam. Notice will be provided to the students if there will be a delay in posting of exam grades.

iv) *Exam Rebuttals*

Students have one week after posting of the exam grades to challenge any exam question. No appeals will be accepted after one week. Written appeals must include the following: the question number, an evidence-based rationale for why the student feels their response is accurate. The exam will be regraded, in full, by a third party. Note: the score of a fully regraded exam may increase, decrease, or stay the same. The regraded score will be considered final.

v) *Policy on Old Exams and Assignments*

Students will not be provided with old quizzes, exams, or assignments.

h) *General College of Pharmacy Course Policies*

The College of Pharmacy has a website that lists course policies that are common to all courses. Please see the following URL for this information: [UF College of Pharmacy Course Policies](#)

i) *Assignments and Assignment Deadlines*

i) *Assignments*

Each course contains modules that may have corresponding assignments. The assignments deadlines can be found in the individual course syllabus and in the Canvas course site. Details for each assignment can be found within the Canvas course site on the corresponding Assignment page. There are multiple assignment types based on the material covered. Examples of assignments include a medication-related action plan, personalized medication list, patient case questions, a comprehensive medication review, and business-related assignments such as a business plan. Many of the assignments are graded using a pre-determined rubric that is available within the corresponding assignment.

ii) *Assignment Deadlines*

It is recommended to submit online assignments early to avert last minute issues with technology. Late submission of assignments will result in a 20%-point deduction without adequate explanation and may result in a zero grade, depending on the assignment. Students who experience technical difficulty when submitting assignments electronically must notify the course coordinator as soon as possible.

j) Evaluation of Grades

Students will be graded based on written assignments, discussion board participation, quizzes, and tests. The assignments may vary in each course. The final grade is based on the student's cumulative score divided by the total number of points available. The resulting percentage will be converted to a letter grade based on the scale below.

Percent	Grade	Percent	Grade
93 - 100.0	A	73.3 - 76.5	C
90.0 - 92.9	A-	70.0 - 73.2	C-
86.6 - 89.9	B+	66.6 - 69.9	D+
83.3 - 86.5	B	63.3 - 66.5	D
80.0 - 83.2	B-	60.0 - 63.2	D-
76.6 - 79.9	C+	0 - 59.9	E

Students can check their progress and grades in Canvas by clicking on the Grades option in the navigation menu. Final grades in Canvas will be rounded to the 2nd decimal place. If the decimal is X.495 or higher, Canvas will round the grade to X.50, The above scale depicts this policy and grades are determined accordingly. Grade assignment is made using this policy and NO EXEPTIONS will be made in situations where a student's grade is "close."

More information on UF's grading policy may be found at:

<http://gradcatalog.ufl.edu/content.php?catoid=10&navoid=2020#grades>
[UF Grading Policy](#)

k) Students Requiring Accommodations

Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, <https://www.dso.ufl.edu/drc>) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

l) University Honesty Policy

UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Honor Code (<https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

m) Software Use

All faculty, staff, and students of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.

n) Student Privacy

There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments. For more information, please see: [UF Student Privacy Policies \(FERPA\)](#).

o) Campus Resources

i) Health and Wellness

U Matter, We Care:

If you or a friend is in distress, please contact umatter@ufl.edu or 352 392-1575 so that a team member can reach out to the student.

Counseling and Wellness Center: [UF Counseling and Wellness Center](#), and 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

Sexual Assault Recovery Services (SARS)

Student Health Care Center, 392-1161.

University Police Department at 392-1111 (or 9-1-1 for emergencies), or [UF Police](#).

ii) Academic Resources

E-learning technical support, 352-392-4357 (select option 2) or e-mail to Learning-support@ufl.edu. [UF E-learning Help](#).

Career Resource Center, Reitz Union, 392-1601. Career assistance and counseling. [UF Career Resource Center](#).

Library Support, [Library Support](#). Various ways to receive assistance with respect to using the libraries or finding resources.

Teaching Center, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring. [UF Teaching Center](#).

Writing Studio, 302 Tigert Hall, 846-1138. Help brainstorming, formatting, and writing papers. [UF Writing Studio](#).

Student Complaints Campus: [UF Student Complaints](#).

On-Line Students Complaints: [UF Online Student Complaints](#).

2) Medication Therapy Management Course Objectives and Topics

a) PHA6631: Foundations of Medication Therapy Management I

i) Course Description

The course will introduce the student to the core elements of medication therapy management (MTM), communication techniques, and documentations systems needed for the successful provision of MTM services. The student will learn how to conduct various types of patient care interviews. Additionally, the student will develop confidence in communicating with patients and other healthcare providers.

ii) Course Objectives

Upon successful completion of this course, the student will be able to:

1. Establish individual goals for personal practice and identify the MS-MTM program competencies that will enable achievement of these goals.
2. Define the core elements of Medication Therapy Management (MTM).
3. Outline how to provide MTM to an individual patient.
4. Obtain a thorough medication history from a patient that provides adequate information to conduct a comprehensive medication therapy review.
5. Utilize effective communication techniques when conducting a medication therapy management session.
6. Identify ineffective communication techniques that serve as barriers to the provision of MTM services.
7. Document patient assessment, pharmacotherapy, interventions, recommendations, evaluation, and follow-up using effective written communication.
8. Communicate MTM interventions effectively to other healthcare providers.
9. Identify drug information resources necessary for the provision of MTM services.

iii) Program Related Student Learning Outcomes

This course prepares the MS-MTM student to accomplish the following abilities and the related Student Learning Outcomes (SLOs) upon graduation:

- Knowledge SLO: Utilize core knowledge within the Pharmaceutical Sciences to interpret relationships between facts.
- Problem-Solving/Critical Thinking SLO: Analyze and apply material from foundation and disease focused courses in the curriculum and synthesize a response to a complex problem/case.
- Professional Communications: Effectively communicate information in their discipline in writing and orally.

This course is one of a series that will develop problem-solving and critical thinking skills and prepare the student to demonstrate comprehensive knowledge in medication therapy management.

iv) Required Texts and Reading Materials

Whalen K, Hardin H, editors. Medication Therapy Management: A Comprehensive Approach, 2nd edition. New York, NY: McGraw-Hill, 2018. ISBN 978-1-260-10845-3 – This is available through the HSC library website at no cost using AccessPharmacy



Instructors may require additional readings such as clinical guidelines, review articles, book chapters, or websites. They may also provide additional resources to supplement the lecture material. Required or recommended readings will be listed under assignments and responsibilities on the course schedule. Links to the reading or instructions for accessing the reading will be available on the course website.

v) Topics

- Introduction to Medicare
- Communication Skills
- Motivational Interviewing
- Introduction to MTM
- Patient Care Concepts
- Patient Interview Skills
- Communicating with Healthcare Providers
- Documentation of MTM Services
- MTM Documentation Platforms

vi) Course Instructor and Program Director

Teresa E. Roane, PharmD, MBA, BCACP, CPh
troane@cop.ufl.edu

This is a team-taught course and there are multiple lecturers from different specialties.

b) PHA6632: Foundations of Medication Therapy Management II

i) Course Description

The course will introduce the student to the business elements of medication therapy management (MTM), business plan development and creation, MTM models of practice, practice design, documentation systems, and basic financial principles needed for the successful provision of MTM. An interactive component of the course will involve discussions on all aspects of MTM practice and creation of an MTM business plan.

ii) Course Objectives

Upon successful completion of this course, the student will be able to:

1. Create an MTM business plan proposal
2. Explain the importance of business planning
3. Compare and contrast various MTM service models
4. Perform and utilize a SWOT analysis
5. Assess the need for MTM services
6. Evaluate and assess the competition with regard to MTM services
7. Market MTM services effectively to stakeholders
8. Outline MTM service workflow and explain potential personnel implications
9. Use financial principles and projections to predict the long-term financial viability of an MTM service
10. Discuss the legal and regulatory considerations regarding an MTM practice
11. Identify drug information resources necessary for the provision of MTM services.
12. Critically evaluate scientific and professional literature for the purpose of making an MTM intervention.

iii) Program Related Student Learning Objectives

This course prepares the MS-MTM student to accomplish the following abilities and the related Student Learning Outcomes (SLOs) upon graduation:

- Knowledge SLO: Utilize core knowledge within the Pharmaceutical Sciences to interpret relationships between facts.
- Problem-Solving/Critical Thinking SLO: Analyze and apply material from foundation and disease focused courses in the curriculum and synthesize a response to a complex problem/case.
- Professional Communications: Effectively communicate information in their discipline in writing and orally.

This course is one of a series that will develop problem-solving and critical thinking skills and prepare the student to demonstrate comprehensive knowledge in medication therapy management.

iv) Required Texts and Reading Materials

Required Textbooks

- Schumock, Glen T and Stubbings, JoAnn. *How to Develop a Business Plan for Pharmacy Services 2nd Edition*. American College of Clinical Pharmacy, 2007. ISBN-10: 1-93265-857-2; ISBN-13: 978-1-932658-57-6. Another option to purchase: [ACCP Bookstore](#)
- APhA. *How to Start an MTM Practice: A Guidebook for Pharmacists. The First Steps in Building MTM Services into Your Practice Business Model and Preparing to Write a Business Plan*. 2012. To purchase: [APhA Store](#)
- *Developing Trends in Delivery and Reimbursement of Pharmacist Services*. Avalere Health, LLC. White paper for the National Association of Chain Drug Stores (NACDS). 2015 Oct. [NACDS White Paper](#)

Suggested Textbook

- Holdford, David A. Marketing for Pharmacists. American Pharmacists Association. 2007. ISBN 978-1-58212-106-2. [Barnes and Noble Link to Purchase Book](#)

v) Topics

- Introduction to the Business Plan
- Current State of MTM
- Medicare Modernization Act (MMA)
- HIPAA
- Assessing the Competition
- MTM Models
- Evaluating Work-flow and Business Setting
- Documentation Applications
- Budgeting
- Payment Methodologies for MTM Services
- Identifying Payment Barriers for MTM Services
- Drug Information and Literature Evaluation Topic Threads

vi) Course Instruction

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This is a team-taught course and there are multiple lecturers from different specialties.

c) PHA6935: Disease State Management

i) Course Description

An introduction to various disease states encountered during the provision of MTM services. The student will learn the basics of the disease state including an overview of the disease state and treatment options. Specific patient interviewing questions and education regarding the disease state and its treatment will also be covered.

This course is a required for the Comprehensive Medication Management Program (not MS-MTM).

ii) Course Objectives

Upon successful completion of this course, the student will be able to:

1. Describe monitoring parameters, goals of therapy, and treatment options for the specified disease states.
2. List specific questions to ask patients to assess the specified disease states during MTM encounters.
3. List the medication classes used to treat the specified disease states and the class considerations of each.
4. Explain potential gaps in therapy to watch for when performing MTM services for the specified disease states.
5. Communicate disease state education and counseling effectively in writing via the medication-related action plan (MAP) and Personalized Medication List (PML).
6. Communicate therapy recommendations effectively in writing via the prescriber communication
7. Review and assess a complex patient case and compose an assessment, plan, member communication, and prescriber communication.
8. Review MTM Programs that specialize in the specified disease states
9. Utilize knowledge learned and critically evaluate complex patient cases with multiple disease states

iii) Program Related Student Learning Objectives

This course prepares the MS-MTM student to accomplish the following abilities and the related Student Learning Outcomes (SLOs) upon graduation:

- Knowledge SLO: Utilize core knowledge within the Pharmaceutical Sciences to interpret relationships between facts.
- Problem-Solving/Critical Thinking SLO: Analyze and apply material from foundation and disease focused courses in the curriculum and synthesize a response to a complex problem/case.
- Professional Communications: Effectively communicate information in their discipline in writing and orally.

This course is one of a series that will develop problem-solving and critical thinking skills and prepare the student to demonstrate comprehensive knowledge in medication therapy management.

iv) Required Texts and Reading Materials

Required:

- Whalen K, Hardin H, editors. Medication Therapy Management: A Comprehensive Approach, 2nd edition. New York, NY: McGraw-Hill, 2018. ISBN 978-1-260-10845-3 – This is available through the HSC library website at no cost using AccessPharmacy

Suggested:

- Wells, B, Schwinghammer T, DiPiro J, DiPiro C. Pharmacotherapy Handbook, 10th ed. New Your, NY: McGraw-Hill, 2017. ISBN 978-1-259-58643-9 – This is available through the HSC library at no cost using AccessPharmacy
- DiPiro JT, Talbert RL, Yee GC, et al, eds. Pharmacotherapy: A Pathophysiological Approach, 10th ed. – This is available through the HSC library website at no cost using AccessPharmacy

Instructors may require additional readings such as clinical guidelines, review articles, book chapters, or websites. They may also provide additional resources to supplement the lecture material. Required or recommended readings will be listed under assignments and responsibilities on the course schedule. Links to the reading or instructions for accessing the reading will be available on the course website.

v) Topics

- Respiratory Disorders
- Cardiovascular Disorders
- Endocrine Disorders
- Renal Disorders
- General Health and Wellness Screenings
- Psychiatric Disorders
- Bone Disorders
- Urologic Disorders
- GERD
- Alzheimer's Disease
- Parkinson's Disease

vi) Course Instruction and Program Director

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troane@cop.ufl.edu

This is a team-taught course and there are multiple lecturers from different specialties.

d) PHA6630: Medication Therapy Management: A Hematological Focus

i) Course Description

This course is intended to familiarize students with the provision of MTM in patients with **hematologic** disorders that range from common to complex. The student will gain hands-on practice in the core elements of MTM for patients with **hematologic** disorders, including conducting a comprehensive medication review, generating a personalized medication record, designing a medication-related action plan, making pharmacotherapy interventions, and documenting the MTM service. The curricular threads of advanced pharmacotherapy knowledge, communication skills, and essential MTM business principles will be emphasized.

ii) Course Objectives

Upon successful completion of this course, the student will be able to demonstrate the ability to perform the following with respect to **hematologic** disorders:

1. Recognize areas of pharmacotherapy knowledge essential to the provision of MTM services.
2. Identify clinical practice guidelines and current scientific literature pertaining to the provision of MTM services.
3. Evaluate scientific literature for use in providing up-to-date, evidence-based, and cost-effective MTM services.
4. Communicate effectively with patients when providing MTM services.
5. Identify barriers to patient communication and design strategies to overcome those barriers.
6. Conduct a targeted or comprehensive medication therapy review (MTR).
7. Identify drug-related problems and recommend rational solutions based on a mastery of pharmacotherapy.
8. Create a personalized medication record for an individual patient receiving MTM services.
9. Design a medication-related action plan, considering patient abilities and preferences.
10. Educate patients regarding techniques to improve adherence, decrease the risk of adverse drug reactions, and maximize appropriate and safe medication use.
11. Communicate interventions effectively to physicians and other healthcare colleagues.
12. Document MTM services in a manner sufficient for following patient progress, monitoring patient outcomes, and completing billing statements.
13. Utilize sound business principles in the provision of MTM services

iii) Program Related Student Learning Objectives

This course prepares the MS-MTM student to accomplish the following abilities and the related Student Learning Outcomes (SLOs) upon graduation:

- Knowledge SLO: Utilize core knowledge within the Pharmaceutical Sciences to interpret relationships between facts.
- Problem-Solving/Critical Thinking SLO: Analyze and apply material from foundation and disease focused courses in the curriculum, and synthesize a response to a complex problem/case.
- Professional Communications: Effectively communicate information in their discipline in writing and orally.

This course is one of a series that will develop problem-solving and critical thinking skills and prepare the student to demonstrate comprehensive knowledge in medication therapy management.

iv) Required Texts and Reading Materials

Required:

- DiPiro JT, Talbert RL, Yee GC, et al, eds. Pharmacotherapy: A Pathophysiological Approach, 10th ed. – This is available through the HSC library website at no cost using AccessPharmacy

Suggested:

- Whalen K, Hardin H, editors. Medication Therapy Management: A Comprehensive Approach, 2nd edition. New York, NY: McGraw-Hill, 2018. ISBN 978-1-260-10845-3 – This is available through the HSC library website at no cost using AccessPharmacy



Instructors may require additional readings such as clinical guidelines, review articles, book chapters, or websites. They may also provide additional resources to supplement the lecture material. Required or recommended readings will be listed under assignments and responsibilities on the course schedule. Links to the reading or instructions for accessing the reading will be available on the course website.

v) Topics

- Introduction to Hematologic Disorders
- Anemias
- HIV
- Introduction to Oncology
- Supportive Care
- Common Cancers
- Lymphoma
- Leukemia
- Business Thread Topics

vi) Course Instruction and Program Director

Teresa E. Roane, PharmD, MBA, BCACP, CPh
troane@cop.ufl.edu

This is a team-taught course and there are multiple lecturers from different specialties.

e) PHA6633: Medication Therapy Management: A Cardiovascular Focus

i) Course Description

This course is intended to familiarize students with the provision of MTM in patients with **cardiovascular** disorders that range from common to complex. The student will gain hands-on practice in the core elements of MTM for patients with **cardiovascular** disorders, including conducting a comprehensive medication review, generating a personalized medication record, designing a medication-related action plan, making pharmacotherapy interventions, and documenting the MTM service. The curricular threads of advanced pharmacotherapy knowledge, communication skills, and essential MTM business principles will be emphasized.

ii) Course Objectives

Upon successful completion of this course, the student will be able to demonstrate the ability to perform the following with respect to **cardiovascular** disorders:

1. Recognize areas of pharmacotherapy knowledge essential to the provision of MTM services.
2. Identify clinical practice guidelines and current scientific literature pertaining to the provision of MTM services.
3. Evaluate scientific literature for use in providing up-to-date, evidence-based, and cost-effective MTM services.
4. Communicate effectively with patients when providing MTM services.
5. Identify barriers to patient communication and design strategies to overcome those barriers.
6. Conduct a targeted or comprehensive medication therapy review (MTR).
7. Identify drug-related problems and recommend rational solutions based on a mastery of pharmacotherapy.
8. Create a personalized medication record for an individual patient receiving MTM services.
9. Design a medication-related action plan, considering patient abilities and preferences.
10. Educate patients regarding techniques to improve adherence, decrease the risk of adverse drug reactions, and maximize appropriate and safe medication use.
11. Communicate interventions effectively to physicians and other healthcare colleagues.
12. Document MTM services in a manner sufficient for following patient progress, monitoring patient outcomes, and completing billing statements.
13. Utilize sound business principles in the provision of MTM services

iii) Program Related Student Learning Objectives

This course prepares the MS-MTM student to accomplish the following abilities and the related Student Learning Outcomes (SLOs) upon graduation:

- Knowledge SLO: Utilize core knowledge within the Pharmaceutical Sciences to interpret relationships between facts.
- Problem-Solving/Critical Thinking SLO: Analyze and apply material from foundation and disease focused courses in the curriculum, and synthesize a response to a complex problem/case.
- Professional Communications: Effectively communicate information in their discipline in writing and orally.

This course is one of a series that will develop problem-solving and critical thinking skills and prepare the student to demonstrate comprehensive knowledge in medication therapy management.

iv) Required Texts and Reading Materials

Required:

- Whalen K, Hardin H, editors. Medication Therapy Management: A Comprehensive Approach, 2nd edition. New York, NY: McGraw-Hill, 2018. ISBN 978-1-260-10845-3 – This is available through the HSC library website at no cost using AccessPharmacy

- DiPiro JT, Talbert RL, Yee GC, et al, eds. Pharmacotherapy: A Pathophysiological Approach, 10th ed. – This is available through the HSC library website at no cost using AccessPharmacy



Instructors may require additional readings such as clinical guidelines, review articles, book chapters, or websites. They may also provide additional resources to supplement the lecture material. Required or recommended readings will be listed under assignments and responsibilities on the course schedule. Links to the reading or instructions for accessing the reading will be available on the course website.

v) Topics

- Introduction to Cardiovascular Diseases
- Hypertension
- Lipids
- Heart Failure
- Venous Thromboembolism
- Stable Angina Pectoris
- Literature Topic Threads
- Communication Topic Thread

vi) Course Instruction and Program Director

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This is a team-taught course and there are multiple lecturers from different specialties.

f) PHA6634: Medication Therapy Management: An Endocrine Focus

i) Course Description

This course is intended to familiarize students with the provision of MTM in patients with **endocrine** disorders that range from common to complex. The student will gain hands-on practice in the core elements of MTM for patients with **endocrine** disorders, including conducting a comprehensive medication review, generating a personalized medication record, designing a medication-related action plan, making pharmacotherapy interventions, and documenting the MTM service. The curricular threads of advanced pharmacotherapy knowledge, communication skills, and essential MTM business principles will be emphasized.

ii) Course Objectives

Upon successful completion of this course, the student will be able to demonstrate the ability to perform the following with respect to **endocrine** disorders:

1. Recognize areas of pharmacotherapy knowledge essential to the provision of MTM services.
2. Identify clinical practice guidelines and current scientific literature pertaining to the provision of MTM services.
3. Evaluate scientific literature for use in providing up-to-date, evidence-based, and cost-effective MTM services.
4. Communicate effectively with patients when providing MTM services.
5. Identify barriers to patient communication and design strategies to overcome those barriers.
6. Conduct a targeted or comprehensive medication therapy review (MTR).
7. Identify drug-related problems and recommend rational solutions based on a mastery of pharmacotherapy.
8. Create a personalized medication record for an individual patient receiving MTM services.
9. Design a medication-related action plan, considering patient abilities and preferences.
10. Educate patients regarding techniques to improve adherence, decrease the risk of adverse drug reactions, and maximize appropriate and safe medication use.
11. Communicate interventions effectively to physicians and other healthcare colleagues.
12. Document MTM services in a manner sufficient for following patient progress, monitoring patient outcomes, and completing billing statements.
13. Utilize sound business principles in the provision of MTM services

iii) Program Related Student Learning Objectives

This course prepares the MS-MTM student to accomplish the following abilities and the related Student Learning Outcomes (SLOs) upon graduation:

- Knowledge SLO: Utilize core knowledge within the Pharmaceutical Sciences to interpret relationships between facts.
- Problem-Solving/Critical Thinking SLO: Analyze and apply material from foundation and disease focused courses in the curriculum, and synthesize a response to a complex problem/case.
- Professional Communications: Effectively communicate information in their discipline in writing and orally.

This course is one of a series that will develop problem-solving and critical thinking skills and prepare the student to demonstrate comprehensive knowledge in medication therapy management.

iv) Required Texts and Reading Materials

Required:

- Whalen K, Hardin H, editors. Medication Therapy Management: A Comprehensive Approach, 2nd edition. New York, NY: McGraw-Hill, 2018. ISBN 978-1-260-10845-3 – This is available through the HSC library website at no cost using AccessPharmacy

- DiPiro JT, Talbert RL, Yee GC, et al, eds. Pharmacotherapy: A Pathophysiological Approach, 10th ed. – This is available through the HSC library website at no cost using AccessPharmacy



Instructors may require additional readings such as clinical guidelines, review articles, book chapters, or websites. They may also provide additional resources to supplement the lecture material. Required or recommended readings will be listed under assignments and responsibilities on the course schedule. Links to the reading or instructions for accessing the reading will be available on the course website.

v) Topics

- Introduction to Endocrine Disorders
- Diabetes
- Diabetes Devices
- Transitions of Care
- Obesity
- Women's Health
- Thyroid
- Literature Thread Topic

vi) Course Instruction and Program Director

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This is a team-taught course and there are multiple lecturers from different specialties.

g) PHA6635: Medication Therapy Management: A Renal Focus

i) Course Description

This course is intended to familiarize students with the provision of MTM in patients with **kidney** disorders that range from common to complex. The student will gain hands-on practice in the core elements of MTM for patients with **kidney** disorders, including conducting a comprehensive medication review, generating a personalized medication record, designing a medication-related action plan, making pharmacotherapy interventions, and documenting the MTM service. The curricular threads of advanced pharmacotherapy knowledge, communication skills, and essential MTM business principles will be emphasized.

ii) Course Objectives

Upon successful completion of this course, the student will be able to demonstrate the ability to perform the following with respect to **renal** disorders:

1. Recognize areas of pharmacotherapy knowledge essential to the provision of MTM services.
2. Identify clinical practice guidelines and current scientific literature pertaining to the provision of MTM services.
3. Evaluate scientific literature for use in providing up-to-date, evidence-based, and cost-effective MTM services.
4. Communicate effectively with patients when providing MTM services.
5. Identify barriers to patient communication and design strategies to overcome those barriers.
6. Conduct a targeted or comprehensive medication therapy review (MTR).
7. Identify drug-related problems and recommend rational solutions based on a mastery of pharmacotherapy.
8. Create a personalized medication record for an individual patient receiving MTM services.
9. Design a medication-related action plan, considering patient abilities and preferences.
10. Educate patients regarding techniques to improve adherence, decrease the risk of adverse drug reactions, and maximize appropriate and safe medication use.
11. Communicate interventions effectively to physicians and other healthcare colleagues.
12. Document MTM services in a manner sufficient for following patient progress, monitoring patient outcomes, and completing billing statements.
13. Utilize sound business principles in the provision of MTM services

iii) Program Related Student Learning Objectives

This course prepares the MS-MTM student to accomplish the following abilities and the related Student Learning Outcomes (SLOs) upon graduation:

- Knowledge SLO: Utilize core knowledge within the Pharmaceutical Sciences to interpret relationships between facts.
- Problem-Solving/Critical Thinking SLO: Analyze and apply material from foundation and disease focused courses in the curriculum, and synthesize a response to a complex problem/case.
- Professional Communications: Effectively communicate information in their discipline in writing and orally.

This course is one of a series that will develop problem-solving and critical thinking skills and prepare the student to demonstrate comprehensive knowledge in medication therapy management.

iv) Required Texts and Reading Materials

Required:

- Whalen K, Hardin H, editors. Medication Therapy Management: A Comprehensive Approach, 2nd edition. New York, NY: McGraw-Hill, 2018. ISBN 978-1-260-10845-3 – This is available through the HSC library website at no cost using AccessPharmacy

- DiPiro JT, Talbert RL, Yee GC, et al, eds. Pharmacotherapy: A Pathophysiological Approach, 10th ed. – This is available through the HSC library website at no cost using AccessPharmacy



Instructors may require additional readings such as clinical guidelines, review articles, book chapters, or websites. They may also provide additional resources to supplement the lecture material. Required or recommended readings will be listed under assignments and responsibilities on the course schedule. Links to the reading or instructions for accessing the reading will be available on the course website.

v) Topics

- Introduction to Renal Disorders
- Acute Kidney Injury
- Renal Transplant
- Chronic Kidney Disease
- Electrolytes
- Drug Individualization in Renal Disorders
- Urologic Disorders
- Communication and Literature Topic Threads

vi) Course Instruction and Program Director

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This is a team-taught course and there are multiple lecturers from different specialties.

h) PHA6636: Medication Therapy Management: A Gastrointestinal Focus

i) Course Description

The course is intended to familiarize students with the provision of MTM in patients with **gastrointestinal** disorders that range from common to complex. The student will gain hands-on practice in the core elements of MTM for patients with **gastrointestinal** disorders, including conducting a comprehensive medication therapy review, generating a personalized medication record, designing a medication-related action plan, making pharmacotherapy interventions, and documenting the MTM service. The curricular threads of advanced pharmacotherapy knowledge, communication skills, and essential MTM business principles will be emphasized.

ii) Course Objectives

Upon successful completion of this course, the student will be able to demonstrate the ability to perform the following with respect to **gastrointestinal** disorders:

1. Recognize areas of pharmacotherapy knowledge essential to the provision of MTM services.
2. Identify clinical practice guidelines and current scientific literature pertaining to the provision of MTM services.
3. Evaluate scientific literature for use in providing up-to-date, evidence-based, and cost-effective MTM services.
4. Communicate effectively with patients when providing MTM services.
5. Identify barriers to patient communication and design strategies to overcome those barriers.
6. Conduct a targeted or comprehensive medication therapy review (MTR).
7. Identify drug-related problems and recommend rational solutions based on a mastery of pharmacotherapy.
8. Create a personalized medication record for an individual patient receiving MTM services.
9. Design a medication-related action plan, taking into account patient abilities and preferences.
10. Educate patients regarding techniques to improve adherence, decrease the risk of adverse drug reactions, and maximize appropriate and safe medication use.
11. Communicate interventions effectively to physicians and other healthcare colleagues.
12. Document MTM services in a manner sufficient for following patient progress, monitoring patient outcomes, and completing billing statements.
13. Utilize sound business principles in the provision of MTM services

iii) Program Related Student Learning Objectives

This course prepares the MS-MTM student to accomplish the following abilities and the related Student Learning Outcomes (SLOs) upon graduation:

- Knowledge SLO: Utilize core knowledge within the Pharmaceutical Sciences to interpret relationships between facts.
- Problem-Solving/Critical Thinking SLO: Analyze and apply material from foundation and disease focused courses in the curriculum, and synthesize a response to a complex problem/case.
- Professional Communications: Effectively communicate information in their discipline in writing and orally.

This course is one of a series that will develop problem-solving and critical thinking skills and prepare the student to demonstrate comprehensive knowledge in medication therapy management.

iv) Required Texts and Reading Materials

Required Textbooks:

- DiPiro JT, Talbert RL, Yee GC, Matzke GR, Wells BG, Posey L. eds. *Pharmacotherapy: A Pathophysiologic Approach, 10e* New York, NY: McGraw-Hill, 2017. ISBN: 978-1-259-58748-1 – This is available through the HSC library website at no cost using AccessPharmacy

Suggested Textbooks:

- Whalen K, Hardin H, editors. Medication Therapy Management: A Comprehensive Approach, 2nd edition. New York, NY: McGraw-Hill, 2018. ISBN 978-1-260-10845-3 – This is available through the HSC library website at no cost using AccessPharmacy



Instructors may require additional readings such as clinical guidelines, review articles, book chapters, or websites. They may also provide additional resources to supplement the lecture material. Required or recommended readings will be listed under assignments and responsibilities on the course schedule. Links to the reading or instructions for accessing the reading will be available on the course website.

v) Topics

- Introduction to Gastrointestinal Disorders
- Peptic Ulcer Disease
- GERD
- Hepatitis
- Cirrhosis
- Liver Transplant
- Nutrition
- Drug Dosing in Liver Disease
- IBD
- Constipation
- Diarrhea
- Nausea & Vomiting
- IBS
- Literature Topic Thread

vi) Course Instruction and Program Director

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This is a team-taught course and there are multiple lecturers from different specialties.

i) PHA6637: Medication Therapy Management: A Psychiatric Focus

i) Course Description

The course is intended to familiarize students with the provision of MTM in patients with **psychiatric** disorders that range from common to complex. The student will gain hands-on practice in the core elements of MTM for patients with **psychiatric** disorders, including conducting a comprehensive medication therapy review, generating a personalized medication record, designing a medication-related action plan, making pharmacotherapy interventions, and documenting the MTM service. The curricular threads of advanced pharmacotherapy knowledge, communication skills, and essential MTM business principles will be emphasized.

ii) Course Objectives

Upon successful completion of this course, the student will be able to demonstrate the ability to perform the following with respect to **psychiatric** disorders:

1. Recognize areas of pharmacotherapy knowledge essential to the provision of MTM services.
2. Identify clinical practice guidelines and current scientific literature pertaining to the provision of MTM services.
3. Evaluate scientific literature for use in providing up-to-date, evidence-based, and cost-effective MTM services.
4. Communicate effectively with patients when providing MTM services.
5. Identify barriers to patient communication and design strategies to overcome those barriers.
6. Conduct a targeted or comprehensive medication therapy review (MTR).
7. Identify drug-related problems and recommend rational solutions based on a mastery of pharmacotherapy.
8. Create a personalized medication record for an individual patient receiving MTM services.
9. Design a medication-related action plan, taking into account patient abilities and preferences.
10. Educate patients regarding techniques to improve adherence, decrease the risk of adverse drug reactions, and maximize appropriate and safe medication use.
11. Communicate interventions effectively to physicians and other healthcare colleagues.
12. Document MTM services in a manner sufficient for following patient progress, monitoring patient outcomes, and completing billing statements.
13. Utilize sound business principles in the provision of MTM services.

iii) Program Related Student Learning Objectives

This course prepares the MS-MTM student to accomplish the following abilities and the related Student Learning Outcomes (SLOs) upon graduation:

- Knowledge SLO: Utilize core knowledge within the Pharmaceutical Sciences to interpret relationships between facts.
- Problem-Solving/Critical Thinking SLO: Analyze and apply material from foundation and disease focused courses in the curriculum, and synthesize a response to a complex problem/case.
- Professional Communications: Effectively communicate information in their discipline in writing and orally.

This course is one of a series that will develop problem-solving and critical thinking skills and prepare the student to demonstrate comprehensive knowledge in medication therapy management.

iv) Required Texts and Reading Materials

Required Textbooks:

- Whalen K, Hardin H, editors. Medication Therapy Management: A Comprehensive Approach, 2nd edition. New York, NY: McGraw-Hill, 2018. ISBN 978-1-260-10845-3 – This is available through the HSC library website at no cost using AccessPharmacy

- DiPiro JT, Talbert RL, Yee GC, Matzke GR, Wells BG, Posey L. eds. *Pharmacotherapy: A Pathophysiologic Approach, 10e* New York, NY: McGraw-Hill, 2017. ISBN: 978-1-259-58748-1 – This is available through the HSC library website at no cost using AccessPharmacy



Instructors may require additional readings such as clinical guidelines, review articles, book chapters, or websites. They may also provide additional resources to supplement the lecture material. Required or recommended readings will be listed under assignments and responsibilities on the course schedule. Links to the reading or instructions for accessing the reading will be available on the course website.

v) Topics

- Introduction to Psychiatric Disorders
- Psychiatric Assessment and Scales
- Anxiety and Depression
- Psychosis and Bipolar Disorder
- Substance Abuse, PTSD, OCD
- ADHD, Autism, and Eating Disorders
- Sleep Disorders

vi) Course Instruction and Program Director

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This is a team-taught course and there are multiple lecturers from different specialties.

j) PHA6638: Medication Therapy Management: A Neurological Focus

i) Course Description

The course is intended to familiarize students with the provision of MTM in patients with **neurologic** disorders that range from common to complex. The student will gain hands-on practice in the core elements of MTM for patients with **neurologic** disorders, including conducting a comprehensive medication therapy review, generating a personalized medication record, designing a medication related action plan, making pharmacotherapy interventions, and documenting the MTM service. The curricular threads of advanced pharmacotherapy knowledge, communication skills, and essential MTM business principles will be emphasized.

ii) Course Objectives

Upon successful completion of this course, the student will be able to demonstrate the ability to perform the following with respect to **neurologic** disorders:

1. Recognize areas of pharmacotherapy knowledge essential to the provision of MTM services.
2. Identify clinical practice guidelines and current scientific literature pertaining to the provision of MTM services.
3. Evaluate scientific literature for use in providing up-to-date, evidence-based, and cost-effective MTM services.
4. Communicate effectively with patients when providing MTM services.
5. Identify barriers to patient communication and design strategies to overcome those barriers.
6. Conduct a targeted or comprehensive medication therapy review (MTR).
7. Identify drug-related problems and recommend rational solutions based on a mastery of pharmacotherapy.
8. Create a personalized medication record for an individual patient receiving MTM services.
9. Design a medication-related action plan, taking into account patient abilities and preferences.
10. Educate patients regarding techniques to improve adherence, decrease the risk of adverse drug reactions, and maximize appropriate and safe medication use.
11. Communicate interventions effectively to physicians and other healthcare colleagues.
12. Document MTM services in a manner sufficient for following patient progress, monitoring patient outcomes, and completing billing statements.
13. Utilize sound business principles in the provision of MTM services.

iii) Program Related Student Learning Objectives

This course prepares the MS-MTM student to accomplish the following abilities and the related Student Learning Outcomes (SLOs) upon graduation:

- Knowledge SLO: Utilize core knowledge within the Pharmaceutical Sciences to interpret relationships between facts.
- Problem-Solving/Critical Thinking SLO: Analyze and apply material from foundation and disease focused courses in the curriculum, and synthesize a response to a complex problem/case.
- Professional Communications: Effectively communicate information in their discipline in writing and orally.

This course is one of a series that will develop problem-solving and critical thinking skills and prepare the student to demonstrate comprehensive knowledge in medication therapy management.

iv) Required Texts and Reading Materials

Required Textbooks:

- Whalen K, Hardin H, editors. Medication Therapy Management: A Comprehensive Approach, 2nd edition. New York, NY: McGraw-Hill, 2018. ISBN 978-1-260-10845-3 – This is available through the HSC library website at no cost using AccessPharmacy

- DiPiro JT, Talbert RL, Yee GC, Matzke GR, Wells BG, Posey L. eds. *Pharmacotherapy: A Pathophysiologic Approach, 10e* New York, NY: McGraw-Hill, 2017. ISBN: 978-1-259-58748-1 – This is available through the HSC library website at no cost using AccessPharmacy



Instructors may require additional readings such as clinical guidelines, review articles, book chapters, or websites. They may also provide additional resources to supplement the lecture material. Required or recommended readings will be listed under assignments and responsibilities on the course schedule. Links to the reading or instructions for accessing the reading will be available on the course website.

v) Topics

- Introduction to Neurologic Disorders
- Neurological Disease in the Geriatric Patient
- Pain Management
- Epilepsy
- Headache
- Neuropathies
- Multiple Sclerosis
- Fibromyalgia
- Rheumatologic Disorders
- Literature Topic Thread

vi) Course Instruction and Program Director

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This is a team-taught course and there are multiple lecturers from different specialties.

k) PHA6639: Medication Therapy Management: A Respiratory Focus

i) Course Description

The course is intended to familiarize students with the provision of MTM in patients with **respiratory** disorders that range from common to complex. The student will gain hands-on practice in the core elements of MTM for patients with **respiratory** disorders, including conducting a comprehensive medication therapy review, generating a personalized medication record, designing a medication related action plan, making pharmacotherapy interventions, and documenting the MTM service. The curricular threads of advanced pharmacotherapy knowledge, communication skills, and essential MTM business principles will be emphasized.

ii) Course Objectives

Upon successful completion of this course, the student will be able to demonstrate the ability to perform the following with respect to **respiratory** disorders:

1. Recognize areas of pharmacotherapy knowledge essential to the provision of MTM services.
2. Identify clinical practice guidelines and current scientific literature pertaining to the provision of MTM services.
3. Evaluate scientific literature for use in providing up-to-date, evidence-based, and cost-effective MTM services.
4. Communicate effectively with patients when providing MTM services.
5. Identify barriers to patient communication and design strategies to overcome those barriers.
6. Conduct a targeted or comprehensive medication therapy review (MTR).
7. Identify drug-related problems and recommend rational solutions based on a mastery of pharmacotherapy.
8. Create a personalized medication record for an individual patient receiving MTM services.
9. Design a medication-related action plan, taking into account patient abilities and preferences.
10. Educate patients regarding techniques to improve adherence, decrease the risk of adverse drug reactions, and maximize appropriate and safe medication use.
11. Communicate interventions effectively to physicians and other healthcare colleagues.
12. Document MTM services in a manner sufficient for following patient progress, monitoring patient outcomes, and completing billing statements.
13. Utilize sound business principles in the provision of MTM services.

iii) Program Related Student Learning Objectives

This course prepares the MS-MTM student to accomplish the following abilities and the related Student Learning Outcomes (SLOs) upon graduation:

- Knowledge SLO: Utilize core knowledge within the Pharmaceutical Sciences to interpret relationships between facts.
- Problem-Solving/Critical Thinking SLO: Analyze and apply material from foundation and disease focused courses in the curriculum, and synthesize a response to a complex problem/case.
- Professional Communications: Effectively communicate information in their discipline in writing and orally.

This course is one of a series that will develop problem-solving and critical thinking skills and prepare the student to demonstrate comprehensive knowledge in medication therapy management.

iv) Required Texts and Reading Materials

Required Textbooks:

- Whalen K, Hardin H, editors. Medication Therapy Management: A Comprehensive Approach, 2nd edition. New York, NY: McGraw-Hill, 2018. ISBN 978-1-260-10845-3 – This is available through the HSC library website at no cost using AccessPharmacy

- DiPiro JT, Talbert RL, Yee GC, Matzke GR, Wells BG, Posey L. eds. *Pharmacotherapy: A Pathophysiologic Approach, 10e* New York, NY: McGraw-Hill, 2017. ISBN: 978-1-259-58748-1 – This is available through the HSC library website at no cost using AccessPharmacy



Instructors may require additional readings such as clinical guidelines, review articles, book chapters, or websites. They may also provide additional resources to supplement the lecture material. Required or recommended readings will be listed under assignments and responsibilities on the course schedule. Links to the reading or instructions for accessing the reading will be available on the course website.

v) Topics

- Introduction to Respiratory Disorders
- Asthma
- COPD
- Allergic Rhinitis
- Tobacco Cessation
- Pulmonary Arterial Hypertension
- Respiratory Delivery Devices
- Drug Induced Respiratory Diseases
- Vaccinations
- Respiratory Infections Disease
- Literature Evaluation Topic Threads
- Business Topic Thread

vi) Course Instruction and Program Director

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This is a team-taught course and there are multiple lecturers from different specialties.

l) PHA6935: Medication Therapy Management: Capstone

i) Course Description

The course is intended to give students hands on practice in providing MTM services through the design and implementation of an MTM practice project. The project, conceptualized in the Foundations II course, is longitudinal in nature and students refine and develop the project as they progress through the curriculum. The goal of the project is to provide an opportunity for students to apply and synthesize the advanced pharmacotherapy knowledge, communication skills, and MTM business principles learned in other courses in the curriculum.

ii) Course Objectives

Upon completion of this course, the student will be able to demonstrate the ability to perform the following:

1. Assess the need for MTM services in a given practice setting
2. Design an MTM patient care service to meet stakeholder needs
3. Create an MTM business proposal for an MTM patient care service
4. Outline MTM service workflow and explain potential personnel implications
5. Implement an MTM patient care service
6. Market MTM services effectively to stakeholders
7. Communicate effectively with patients when providing MTM services
8. Document MTM services in a manner sufficient for following patient progress, monitoring patient outcomes, and completing billing statements.
9. Utilize sound business principles in the provision of MTM services.
10. Use financial principles and projections to predict the financial viability of an MTM service
11. Develop a quality assurance plan for a given MTM service

iii) Program Related Student Learning Objectives

This course prepares the MS-MTM student to accomplish the following abilities and the related Student Learning Outcomes (SLOs) upon graduation:

- Knowledge SLO: Utilize core knowledge within the Pharmaceutical Sciences to interpret relationships between facts.
- Problem-Solving/Critical Thinking SLO: Analyze and apply material from foundation and disease focused courses in the curriculum, and synthesize a response to a complex problem/case.
- Professional Communications: Effectively communicate information in their discipline in writing and orally.

This course is one of a series that will develop problem-solving and critical thinking skills and prepare the student to demonstrate comprehensive knowledge in medication therapy management.

iv) Required Texts and Reading Materials

There is no required textbook for this course

v) Topics

- Marketing MTM Business Plan
- Quality Assurance
- Presentation of Business Plan
- Live comprehensive medication review (CMR) interview with faculty
- Final comprehensive exam

vi) Course Instruction and Program Director

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