Fay W. Boozman College of Public Health

Master of Science (MS) in Healthcare Data Analytics

Program Directors:
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Advisee's Name _____ Student ID Number _____ Faculty Advisor _____

	Completion Date
PLAGIARISM TRAINING	
Certification Test	
WRITING MILESTONE	
Skills Certification	
IPE CURRICULUM	
Exposure Workshop	
Bridge Transition	
Quadruple Aim Project	
Simulation Activity	
Competency Workshop	
Required Practice Activity	
Student Educator Activity	

Plagiarism Training Requirement: All students in the COPH must adhere to the highest standards of professional and ethical conduct. Among these standards is the recognition that student written work must be original and appropriately cited. In order to facilitate understanding of this standard, all students must complete the on-line course "*How to Recognize Plagiarism: Tutorials*" at https://plagiarism.iu.edu/tutorials/ and complete the Certification Test at https://plagiarism.iu.edu/certificationTests/index.html. Upon successful completion of the test, students must provide a copy of the Validation Certificate to the COPH Office of Student and Alumni Affairs at cophoffice@uams.edu. The requirement must be completed by the first day of classes. Requirement approval date: 09.02.2020.

Writing Milestone Requirement: All students who enter the College of Public Health are required to complete a Writing Skills Assessment at the beginning of their first semester. The Assessment will identify strengths and weaknesses and highlight opportunities for improvement. Students who do not meet a predetermined score will be required to complete an online COPH 5000 Public Health Writing Workshop course. This course will address the fundamentals of good writing, writing with scholarly sources, revision strategies, and other topics in the interest of improving student writing skills. This is a non-credit curriculum requirement. Requirement approval date: 09.02.2020.

IPE Curriculum Requirement: All COPH degree-seeking students are required to complete the UAMS Quadruple Aim Interprofessional Education (IPE) Program prior to graduation. According to the World Health Organization (WHO), *"Interprofessional Education occurs when two or more professions learn with, from and about each other to improve collaboration and the quality of care."* The IPE Program is noncredit hour earning and consists of several workshops and other activities. All aspects of the IPE Program must be completed prior to degree program completion as a condition of graduation. For more information on **IPE**, please consult the Office of Student and Alumni Affairs, the Associate Dean for Student and Alumni Affairs or visit our website: https://secure.uams.edu/cophstudent/student-handbook.aspx#ipe. Requirement approval date: 2015.

IPE CURRICULUM FOR THE MS in HCDA			
1. IPE IPEC 1101 (001) EXPOSURE WORKSHOP **Format/Event:** Onsite/Online workshop in August. **Timeline:** 1st semester. **Course Association:** NA **Notes:** Enroll 1st semester and complete by the end of 12th credit hour. Your IPE Program Contact will determine what date you attend.	**2. IPE IPEC 1201 (001) EXPOSURE BRIDGE TRANSITION** **Format/Event**: Exposure Bridge Transition. Any onsite event posted on the IPE website. **Timeline:** 1st semester **Course Association:** NA **Notes:** Enroll 1st semester. Requirements include submitting a reflection and verification form into Blackboard within 7 days of activity. Complete by the end of 12th credit hour.	**3. IPE IPEC 1301 (001) IMMERSION QUADRUPLE AIM PRJECT (QAP) WORKSHOP** **Format/Event:** Quadruple Aim Project (QAP) Workshop. Any event posted on the IPE website. **Timeline:** 12th—24th credit hour **Course Association:** NA **Notes:** Enroll the semester of your 12th credit hour.	**4. IPE IPEC 1401 (001) IMMERSION SIMULATION** **Format/Event:** Onsite— Any event posted on the IPE website. **Timeline**: 12th—36th credit hour **Course Association:** NA **Notes:** Enroll the semester of your 12th credit hour.
5. IPE IPEC 1501 (001) COMPETENCE WORKSHOP* **Format/Event:** Any onsite Competence Workshop event posted on the IPE website. **Timeline:** 12th and 36th credit hour **Course Association:** NA **Notes:** Enroll the semester of your 12th credit hour.	**6. IPE IPEC 1601 (001) COMPETENCE PRACTICE ACTIVITY** **Format/Event:** Onsite Competence Practice Activity—Any event posted on the IPE website **Timeline:** 24th—48th credit hour **Course Association:** NA **Notes:** Enroll the semester of your 24th credit hour. Requirements include submitting a reflection into Blackboard within 7 days of activity. This activity should be completed within your 2nd year of the program.	**7. IPE IPEC 1701 (001) COMPETENCE STUDENT EDUCATOR ACTIVITY** **Format/Event:** Onsite Student Educator Activity—Any event posted on the IPE website. **Timeline:** 24th—48th credit hour **Course Association:** NA **Notes:** Enroll the semester of your 24th credit hour. Requirements include submitting a reflection into Blackboard within 7 days of activity. This activity should be completed within your 2nd year of the program.	Note: For onsite versus online/ distance options as approved events. Please ensure you are registered in the correct GUS course for the delivery method (onsite v. online/distance). If you need to switch courses, you must process a course swap in GUS. If you are faculty or currently working in a healthcare environment, you may be eligible for alternate IPE pathways for advanced learners. If you have questions regarding this, please contact ipe@uams.edu. IPE CURRICULUM 07.01.2022

CORE (REQUIRED) – 24 Credit Hours		**Credit Hours**	**Grade**	**Year**	**Semester**
HPMT 5212	Healthcare Information Systems for Administrators	3			
HPMT 5334	Data Visualization for Healthcare Analytics	3			
HPMT 5214	Decision Analytics in Healthcare	3			
HPMT 5335	Data Mining in Healthcare	3			
COPH 5003	Introduction to Public Health	3			
BIOS 5212	Biostatistics II: Advanced Linear Models	3			
BMIG 6012	Database Systems and Data Warehousing	3			
BIOS 5213	Biostatistics Computing with SAS I	3			
SELECTIVES (with Approval of MS Advisor) - 9 Credit Hours		**Credit Hours**	**Grade**	**Year**	**Semester**
BIOS 5324	Analyzing Health Surveys	3			
HPMT 5338	Data Quality Management	3			
HPMT 5448	Social Network Analysis	3			
BIOS 5214	Categorical Data Analysis	3			
HPMT 6317	Performance Measurement, Reporting and Incentives	3			
BMIG 6201	Machine Learning for Biomedical Informatics	3			
BIOS 5317	Biostatistics Computing with SAS II	3			
BIOS 5223	Biostatistics III: Multivariate Analysis & Linear Models	3			
BMIG 6014	Natural Language Processing in Biomedical Informatics	3			
BMIG 5003	Computational Methods in Biomedical Informatics	3			
BMIG 5001	Information Modelling – From Data to Knowledge	3			
HPMT 6303	Applied Research Methods Using Retrospective Data Sources	3			
ENVH 5447	Geographic Information Systems in Public Health	3			
THESIS / CAPSTONE PROJECT (REQUIRED) – 3 Credit Hours		**Credit Hours**	**Grade**	**Year**	**Semester**
COPH 5200	Thesis	3			

MINIMUM TOTAL HOURS = 36 hours

Program Name: MS in Healthcare Data Analytics		
Competency	Course	Assessment
1. Apply predictive analytic methods on healthcare data and interpret results of the analysis.	HPMT 5335 Data Mining in Healthcare	Final project. The final project requires students to use the R programming language to complete a predictive analytic model on a selected outcome using healthcare data. Students are required to take a healthcare data set, clean the data and define all necessary variables, and apply predicative analytic methods to construct a final predictive model. Students are required to assess the accuracy of the predictive model they create and to interpret the results of the model. The final project is graded using the rubric outlined in the syllabus.
2. Illustrate required skills needed to access and manage data using SQL	BMIG 6012 Database Systems and Data Warehouse Design	Homework (assignments). Homeworks require utilization of various types of SQL commands. These commands include querying (or accessing) the data, as well as management and manipulation of data to answer a specific question using healthcare data and databases. The weekly homeworks are graded based on the rubric outlined in the syllabus.
3. Analyze applicable health law, regulations, and standards for health information systems.	HPMT 5212 Healthcare Information Systems for Administrators	Homework (assignments). This course has homeworks that require student to discuss, investigate and explore HIT law, regulation and HIT standards. Homeworks consist of questions from the textbook that relate specifically to that week's didactic topics, including sections on privacy and security. The homeworks are graded based on the rubric provided to students.
4. Apply forecasting methods to inform decision-making in healthcare.	HPMT 5214 Decision Analytics in Healthcare	Final project. The final project requires students to interpret findings from forecasting techniques to answer a defined decision-making problem in healthcare. During the project students must not only interpret findings from the final chosen models, but the required techniques for forecasting require iterative interpretation of the analyses in order to determine the best final model choice. The final project is a decision-making problem and is graded using the rubric provided to students.
5. Construct appropriate data visualizations using healthcare data.	HPMT 5334 Data Visualization for Healthcare Analytics	Final project. The final project requires students to analyze healthcare data sets using Tableau software and to create visualizations that are appropriate in structure (e.g., bar chart vs line chart) and design (e.g., correct color choices and axes ranges). Students must be cognizant of the best choice in visualization based on the underlying data structure as well as the intended information to be portrayed to the audience. The final project is graded using a rubric provided to students.