

## Modeling, Simulation, and Military Gaming

INTA 4742/ 6742, CX 4232, CSE 6742

Schedule – Spring 2023 (Online)

Week	Module	Start Date*	Module	Lectures	Readings/Assignments Due
1	1	<b>Jan. 9</b>	Introduction to Modeling and Simulation	Introduction to Modeling and Simulation Using Models for Research <i>Guest Speaker: Final Presentation Examples</i>	Readings (Optional): Wilensky and Rand, Ch. 7 Discussion: Introductions Discussion: Evaluating Models – Paper Plate Solar System Discussion: Evaluating Models – Ultimatum Game  <b><i>DUE END OF WEEK 1</i></b> <b><i>Jan. 15th at 11:59 pm (EST)</i></b>
2	2	<b>Jan. 16th</b>	Introduction to Agent Based Modeling	Heroes and Cowards Introduction to Agent Based Modeling and Netlogo	Readings (Optional): Wilensky Ch. 0 and 1 Assignment: Heroes and Cowards Assignment: NetLogo Tutorials Assignment: Evaluating a NetLogo Model  <b><i>DUE END OF WEEK 2</i></b> <b><i>Jan. 22nd at 11:59 pm (EST)</i></b>

3	3	<b>Jan. 23</b>	Military History, Strategy, and Tactics	<i>Guest Speaker: Mike Salomone</i>	<p>Assignment: Military Battle Summary</p> <p>Readings: Chapter 5 from “Military Power: Explaining Victory and Defeat in Modern Battle” By Stephen Biddle</p> <p>Discussion: Evaluating “Military Power” by Stephen Biddle</p> <p>Assignment: Independent and Dependent Variables in “Military Power” by Stephen Biddle</p> <p>Assignment: Team Formation Questionnaire</p> <p><b><i>DUE END OF WEEK 3</i></b> <b><i>Jan. 29th at 11:59 pm (EST)</i></b></p>
4	4	<b>Jan. 30</b>	Developing a Research Question	Developing at Research Question	<p><b><i>*Groups Assigned NLT Feb. 1st</i></b></p> <p><b><i>Group Assignment: Battle Background and Research Question</i></b></p> <p><b><i>DUE END OF WEEK 5</i></b> <b><i>Feb. 12<sup>th</sup> at 11:59 pm (EST)</i></b></p>
5	4	<b>Feb. 6</b>	Developing a Research Question (continued)		

6	4	<b>Feb. 13</b>	Developing a Research Question (Continued)		<p><i>Group Assignment: Interim Presentation: Battle Background and Research Question</i></p> <p><b>DUE END OF WEEK 7</b> <b>Feb. 26 at 11:59 pm (EST)</b></p> <p>Assignment: Peer Review on Interim Presentations</p> <p><b>DUE TWO DAYS AFTER PRESENTATION DUE DATES</b> <b>Feb. 28 at 11:59 pm (EST)</b></p>
7	5	<b>Feb. 20</b>	Critiquing Military Simulation Research	Critiquing Military Simulation Research	<p>Reading: Gowlett, P. "Assessing the Military Impact of Capability Enhancement with Netlogo using the Falklands War as a Case-Study."</p> <p>Reading: Wheeler, Scott and Justin Kelly, "Biotechnology on the Battlefield: An Application of Agent-based Modeling for Emerging Technology Assessment."</p> <p>Reading: Millikan, J. 2013, "Suppression of Dismounted Soldiers: Towards Improving Dynamic Threat Assessment in Closed Loop Combat Simulations."</p> <p>Discussion: Evaluation of Gowlett Discussion: Evaluation of Wheeler Discussion: Evaluation of Millikan</p> <p><b>DUE END OF WEEK 7</b></p>

					<b>Feb. 26<sup>th</sup> at 11:59 pm (EST)</b>
8	6	<b>Feb. 27</b>	Conceptual Model	Conceptual Model in NetLogo	<p>Readings: Chapter 4 from “Face of Battle” by John Keegan</p> <p>Discussion: Chapter 4 from “Face of Battle” by John Keegan</p> <p><b>Group Assignment: Interim Presentation: Conceptual Model</b>  <b>DUE END OF WEEK 9</b>  <b>March 12 at 11:59 pm (EST)</b></p> <p>Assignment: Peer Review on Interim Presentations  <b>DUE TWO DAYS AFTER PRESENTATION DUE DATES</b>  <b>March 14 at 11:59 pm (EST)</b></p>
9	7	<b>March 6</b>	History of Modeling and Simulation	History of Modeling and Simulation	
10	8	<b>March 13</b>	Combat Modeling	Combat Modeling	<p>Readings (Optional): Tolk, Ch. 6-10</p> <p><b>Group Assignment: Interim Presentation: NetLogo Model</b>  <b>DUE END OF WEEK 11</b>  <b>March 26<sup>th</sup> at 11:59 pm (EST)</b></p> <p>Assignment: Peer Review on NetLogo Model  <b>DUE TWO DAYS AFTER PRESENTATION DUE DATES</b>  <b>March 28<sup>th</sup> at 11:59 pm (EST)</b></p>

11	9	<b>March 20</b> [Spring Break Week]	Ethics of Modeling and Simulation	Ethics of Modeling and Simulation	
12	10	<b>March 27</b>	Model Analysis	Approaches to Model Analysis <i>Guest Lecture: DILAC – Data Visualization – Kevin Tain</i>	Readings (Optional): Wilensky and Rand, Ch. 4 and 6 <b>Group Assignment: Interim Presentation: Analysis and Conclusions</b> <b>DUE END OF WEEK 13</b> <b>MONDAY April 10th at 11:59 pm (EST)</b>  Assignment: Peer Review on Analysis and Conclusions <b>DUE TWO DAYS AFTER PRESENTATION DUE DATES</b> <b>April 13th at 11:59 pm (EST)</b>
13	11	<b>April 3</b>	Contemporary Use of Military Models	<i>Guest Speaker: Gen. Winnefeld</i>	
14	12	<b>April 10</b>	Final Presentation Development	<i>Guest Lecture: Communication Center: Slide Design and Public Speaking</i>	<b>Group Assignment: Final Presentation</b> <b>DUE END OF WEEK 15</b> <b>April 23rd at 11:59 pm (EST)</b>  Assignment: Peer Evaluation of Teammates Assignment: Peer Review of Final Presentation <b>DUE TWO DAYS AFTER PRESENTATION DUE DATES</b> <b>April 25th at 11:59 pm (EST)</b>

15	12	<b>April 17</b>	Final Presentation Development (continued)		
16	13	<b>April 24</b>	Course Summary	Course Summary	