

## Modeling, Simulation, and Military Gaming

INTA 4742/ 6742, CX 4232, CSE 6742

Schedule – Spring 2022 (Online)

\*All Modules will be released at 8am on the first day of the course (Jan. 10, 2022).

Week	Module	Start Date*	Module	Lectures	Readings/Assignments Due
1	1	<b>Jan. 10<sup>th</sup> at 8 am (ET)</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>DUE END OF WEEK 1</b> <b>Jan. 17<sup>th</sup> at 11:59 pm (EST)</b>
2	2	<b>Jan. 17 at 8 am (ET)</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>Assignment: Team Formation Questionnaire</b>

					<b>DUE END OF WEEK 2</b> <b>Jan. 24<sup>th</sup> at 11:59 pm (EST)</b>
3	3	<b>Jan. 24 at 8 am (ET)</b>	Military History, Strategy, and Tactics	<i>Guest Speaker: Mike Salomone</i>	Assignment: Military Battle Summary  Readings: Chapter 5 from “Military Power: Explaining Victory and Defeat in Modern Battle” By Stephen Biddle  Discussion: Evaluating “Military Power” by Stephen Biddle  Assignment: Independent and Dependent Variables in “Military Power” by Stephen Biddle  <b>DUE END OF WEEK 3</b> <b>Jan. 31 at 11:59 pm (EST)</b>
4	4	<b>Jan. 31 at 8 am (ET)</b>	Developing a Research Question	Developing at Research Question	<b>*Groups Assigned (Jan. 31)</b>  Group Assignment: Battle Background and Research Question  <b>DUE END OF WEEK 5</b> <b>Feb. 7 at 11:59 pm (EST)</b>
5	4	<b>Feb. 7 at 8 am (ET)</b>	Developing a Research Question (Continued)		<b>Group Assignment: Interim Presentation: Battle Background and Research Question</b> Assignment: Peer Review on Interim Presentations

					<b><i>DUE END OF WEEK 7</i></b> <b><i>Feb. 14 at 11:59 pm (EST)</i></b>
6	5	<b>Feb. 14 at 8 am (ET)</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><i>DUE END OF WEEK 8</i></b> <b><i>Feb. 21 at 11:59 pm (EST)</i></b></p>
7	6	<b>Feb. 21 at 8 am (ET)</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><i>Group Assignment: Interim Presentation: Conceptual Model</i></p> <p><b>DUE END OF WEEK 9</b> <b>Feb. 28 at 11:59 pm (EST)</b></p>
		<b>Feb. 29 at 8 am (ET)</b>			<p>Assignment: Peer Review on Interim Presentations</p> <p><b>DUE March 7 at 11:59 pm (EST)</b></p>
8	7	<b>Feb. 28 at 8 am (ET)</b>	History of Modeling and Simulation	History of Modeling and Simulation	
9	8	<b>March 7 at 8 am (ET)</b>	Combat Modeling	Combat Modeling	<p>Readings (Optional): Tolk, Ch. 6-10</p> <p><i>Group Assignment: Interim Presentation: NetLogo Model</i></p> <p><b>DUE END OF WEEK 11</b> <b>March 14 at 11:59 pm (EST)</b></p>
		<b>March 15 at 8 am (ET)</b>			<p>Assignment: Peer Review on NetLogo Model</p> <p><b>DUE March 21 at 11:59 pm (EST)</b></p>
10	9	<b>March 14 at 8 am (ET)</b>	Ethics of Modeling and Simulation	Ethics of Modeling and Simulation	
11	10	<b>March 21 at 8 am (ET)</b>	Model Analysis	<p>Approaches to Model Analysis</p> <p><i>Guest Lecture: DILAC – Data Visualization – Kevin Tain</i></p>	<p>Readings (Optional): Wilensky and Rand, Ch. 4 and 6</p> <p><i>Group Assignment: Interim Presentation: Analysis and Conclusions</i></p> <p><b>DUE END OF WEEK 13</b></p>

		<b>April 19</b> at 8 am (ET)			<b>April 18 at 11:59 pm (EST)</b> Assignment: Peer Review on Analysis and Conclusions <b>DUE April 25 at 11:59 pm (EST)</b>
12	11	<b>April 4</b> at 8 am (ET)	Contemporary Use of Military Models (Updates and Extensions)	<i>Guest Speaker: Gen. Winnefeld</i>	
13	12	<b>April 11</b> at 8 am (ET)	Final Presentation Development	<i>Guest Lecture: Communication Center: Slide Design and Public Speaking</i>	<b>Group Assignment: Final Presentation</b> <b>Assignment: Peer Review on Final Presentation</b> Assignment: Peer Review of Teammates  <b>DUE END OF WEEK 15 (LAST DAY OF CLASS ASSIGNMENTS ALLOWED)</b> <b>FRIDAY, April 22 at 11:59 pm (EST)</b>
		<b>April 23</b> at 8 am (ET)			Assignment: Peer Review of Teammates  <b>DUE April 29 at 11:59 pm (EST)</b>
14	13	<b>April 18</b> at 8 am (ET)	Course Summary	Course Summary	