Department of Political Science
University of the Punjab, Lahore

Course Outline

Programme	Diplomacy and Strategic Studies	**Course Code**		**Credit Hours**	3
Course Title	**Developments in Revolution in Military Affairs**				

Course Introduction

The search for military victory has occupied man since the dawn of time and stems from various motives such as survival and domination, as well as greed, faith, and religion. The search for a new theory to explain victory consciously and in terms of modern warfare yielded results in the twentieth century. Michael Tukhachevsky's "Deep Operation" idea, which emerged in the late 1920s, was the fruit of intellectual thought that sought a way out of the stalemate of static World War I battles. The "Blitzkrieg," demonstrated by the Germans in World War II, was based on the theory of "Deep Operation" – although it penetrated to the strategic, rather than to the operative, depth of the opponent.

The revolution in military affairs is essentially an intellectual process for creating a strategic advantage over the enemy, using multidimensional strategic surprise based on a new doctrine and technological innovations, and leading to a transformation in the nature of warfare. It is a lengthy process that requires enormous resources, so that even powers like the USSR and the U.S. have found it difficult to meet the budget needed to implement the change, as small countries with poor means certainly have.

Learning Outcomes

On the completion of the course, the students will:

1. Be acquainted with the basic concepts and major debates in international relations
2. Be equipped with sufficient knowledge of prevalent issues
3. Have a thorough overview of international relations that will help them in further, more advanced courses
4. Design a significant roadmap for future discussions and debates to enhance their intellectual caliber
5. Receive an impressive collection or reading and reference material to help them in future research projects and similar research based activities

Course Content	Assignments/Readings

Week 1-2	Introduction to RMA - Overview of RMA - Historical context: previous RMAs	Chapman, G. (2003, September). An introduction to the revolution in military affairs. In *XV Amaldi Conference on Problems in Global Security* (Vol. 1, p. 21).
Week 3-4	Emerging Technologies - Artificial intelligence and machine learning - Cyber warfare and information operations - Hypersonic weapons and advanced propulsion - Autonomous systems and robotics	Brose, C. (2019). The new revolution in military affairs: War's sci-fi future. *Foreign Aff., 98*, 122.
Week 5-6	Network-Centric Warfare - Command and control systems - Communications networks and data links - Sensor and shooter networks - Effects-based operations	Cebrowski, A. K., & Garstka, J. J. (1998, January). Network-centric warfare: Its origin and future. In *US Naval Institute Proceedings* (Vol. 124, No. 1, pp. 28-35).
Week 7-8	Electromagnetic Spectrum Operations - Electronic warfare and countermeasures - Radar and sensor systems - Communication and navigation systems - Cyber-electromagnetic convergence	Burbach, D. T., & Green, B. R. (2009). The technology of the revolution in military affairs. In *US Military Innovation since the Cold War* (pp. 30-58). Routledge.
Week 9-10	Space and Counter-Space Operations - Space-based assets and systems - Counter-space capabilities and strategies - Space situational awareness and command - Integrated air and space operations	Pollpeter, K. (2018). Space, the new domain: Space operations and Chinese military reforms. In *Reshaping the Chinese Military* (pp. 143-160). Routledge.

Week 11-12	Autonomous and Unmanned Systems - UAVs and UCAVs - Autonomous ground vehicles - Naval autonomous systems - Swarming and collaborative systems	Binding, M. (2018). Have Autonomous and Unmanned Systems Changed War Fundamentally?.
Week 13-14	Autonomous and Unmanned Systems - UAVs and UCAVs - Autonomous ground vehicles - Naval autonomous systems - Swarming and collaborative systems	Worcester, M. (2015). Autonomous Warfare-A Revolution in Military Affairs'. *ISPSW Strategy Series: Focus on Defence and International Security*, *340*, 44-53.
Week 15-16	Recap of key developments and implications Future directions for RMA	Knox, M., & Murray, W. (Eds.). (2001). *The dynamics of military revolution, 1300-2050*. Cambridge University Press.

Textbooks and Reading Material

The lectures will supplement discussions through books and online academic material. The objective would be to engage students in reading and listening to expert opinions to develop their own understanding of various concepts that are essential in the subject. The curriculum will not depend on a fixed set of readings and online lectures but will diversify to accommodate research articles and opinions as well as interviews to provide a broad spectrum analysis and discourse.

Recommended Books (material can be provided as lectures proceed)

1. "The Revolution in Military Affairs: Implications for NATO's Central Region" by the RAND Corporation (2001)
2. "RMA: A Framework for Understanding" by Richard O. Hundley (2001)
3. "The Military Revolution: Military Innovation and the Rise of the West, 1500-1800" by Geoffrey Parker (2001)
4. "Revolution in Military Affairs? Do We Really Need One?" by Michael E. O'Hanlon (2004)
5. "The New American Way of War: Military Culture and the Political Utility of Force" by Russell F. Weigley (2005)
6. "The RMA Debate: A Collection of Essays" edited by John G. Morgan (2007)
7. "Revolution in Military Affairs and Conflict Short of War" by Stephen Biddle (2008)

8. "The Future of War: Power, Technology, and American World Dominance in the Twenty-first Century" by George and Meredith Friedman (2009)
9. "The Military-Industrial Complex and American Society" by Stanley J. Michalak III (2011)
10. "The Revolution in Military Affairs and the New American Way of War" by James R. Blaker (2013)

Teaching Learning Strategies

1. Relevant material will be provided beforehand to the class both in printed and electronic form to match with the course contents designed
2. Reciprocal teaching method can be implemented to allow students a chance to speak their mind and discuss their problems
3. Brainstorming sessions will be encouraged with instructional scaffolding to allow students to develop their intellectual capabilities before being introduced to technical subjects
4. Didactic questioning by the instructor will be a viable teaching tool to initiate small group discussions in a think-pair-share collaborative teaching environment.
5. Individual presentations may also be assigned to exclusively focus on students with learning difficulties or exceptional students with a potential to offer more to the class environment.

Assignments: Types and Number with Calendar

1. Week Four: Student report submission for previous lectures taught
2. Week Six-Eight: Surprise Quiz or Show-and-Tell Presentation on topics covered
3. Week Eleven: Research Report post-Midterms
4. Week Fifteen: Grouped presentations of Poster Competition on topics assigned

Assessment

Sr. No.	Elements	Weightage	Details
1.	Midterm Assessment	35%	Written Assessment at the mid-point of the semester.
2.	Formative Assessment	25%	Continuous assessment includes: Classroom participation, assignments, presentations, viva voce, attitude and behavior, hands-on-activities, short tests, projects, practical, reflections, readings, quizzes etc.
3.	Final Assessment	40%	Written Examination at the end of the semester. It is mostly in the form of a test, but owing to the nature of the course the teacher may assess their students based on term paper, research proposal development, field work and report writing etc.