

INTRODUCTION TO MASTER'S IN SECURITY AND DEFENCE LAWS

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Scheme of Discussion

- The Linkage between Technology and Law, Defence Law and Technology
- Forces and Phases Shaping the Global and Indian Defence and Security Industries
- Why Security and Defence Law Education in India?
- Brief About the NALSAR and the CASL/CADL
- Why Security and Defence Law Courses at NALSAR?
- Objective of the Course
- Nature of prospective target group of Learners
- Description of the Course Structure- Masters
- Conduct of the Courses/Programmes
- Brief Description about the Papers and Modules

Law and Technology

- Techno-Driven Laws including IT Law, IP Law, Cyber Law, Telecom Law, Air Law, Space Law, Defence Law etc.,
- Law follows technology or technological developments necessitate the legal regulations. It is true with Defence Technologies.
- Ongoing developments in Defence technologies illustrates the observation that “Law lags science; it does not lead it.”
- Relationship between law and technology has always been uneasy. Law had been slow and lethargic to respond to new technologies.
- Till recently the law makers handled problems presented by technology with out break down of legal resources. Convergence of computers and internet posed a much more grave problem. Legal policy makers find it difficult to address.

Missile Technology

- The development of missile technology in India started in the 1960s. Consider the following point relating to Missile Technology –
- The first successful testing of space-cum-missile technology was the Rohini-75, which was tested in 1967.
- The research and development program of developing indigenous missiles was called the Integrated Guided Missile Development Program' (IGMDP)
- Types of Military Missiles
- Based on target and launching position, the military missiles are classified as –
- Air-to-Air Missile – This missile is carried by an aircraft and targets the enemy's aircraft.
- Surface-to-Air – Such missiles are fired at enemy's aircraft from the ground.
- Air-to-Surface – These missiles are fired at the enemy country's ships, tankers, vehicles, bunkers, or military men from the aircraft.
- Surface-to-Surface – Such missiles are fired at enemy grounds from our grounds.
- Underwater – Such missiles target enemy locations in the water.

The idea of Integrated Guided Missile Development Program (IGMDP)

- The Integrated Guided Missile Development Program
- The idea of Integrated Guided Missile Development Program (IGMDP) was conceptualized by the former President and eminent scientist, Dr. APJ Abdul Kalam. The objective of this program was to enable India to attain self-sufficiency in the field of missile technology.
- The missiles proposed under this program are –
 - **Prithvi** – It is a short-range surface-to-surface ballistic missile.
 - **Trishul** – It is a short-range surface-to-air missile.
 - **Akash** – It is a medium-range surface-to-air missile.
 - **Nag** – It is a third generation anti-tank missile.
 - **Agni Series:** Agni is a series of medium to intercontinental range ballistic missiles. Agni missiles are medium-to-long range, nuclear weapons capable surface to surface ballistic missile

The Linkage between Security, Defence Law and Technology

- National defence and security has since time immemorial assumed a paramount role in determining national policies and assessing their impact on international peace and conflict.
- The new techniques and changes have transformed the nature of war from its mercenary character to that of nationalized and total war. In this modern era every citizen from a country is involved in the process of war directly or indirectly.
- Defence studies as an academic discipline is broadly conceived to encompass all issues-both domestic and strategic-that can affect our national defence and national security interests.
- Recognizing the importance and role of the Defence studies various countries like Australia, Britain, China, France, Germany, Japan, Pakistan, Russia, U.S.A, and many other countries of the world introduced Defence studies as an academic discipline in their countries at university, college and school level.
- Defence studies promote the development of military education and creation of awareness about National security among civilians.

GLP and Its Impact on Defence and Security Governance

- Globalization is the term used to characterize the processes of growing interconnection and interdependence among the different nations of the world.
- It offers to the increased flow of trade, people, investment, technology, culture, ideas among countries and creates a more integrated and interdependent world
- components of Globalization: globalization of markets, globalization of production, globalization of financial markets, globalization of technology , globalization of HR skills
- Globalization of markets is one of the most fascinating developments of the 20th and 21st centuries. Its impact on economic transactions, processes, institutions, and players is dramatic and wide ranging. It challenges established norms and behavior and requires different mindsets

Positive and Negative Aspects of GLP

- On the positive side, it generated by growing international economic, cultural, and political cooperation and solved many global problems. Promotes intense competition among multinational corporations (MNCs) and also makes local companies to be more competitive internationally.
- On the negative side, globalization also has profound implications for states such as the autonomy and policy-making capability of states are being undermined by economic and cultural internationalization.
- Shift of sovereignty from political to economic
- Role of States have Changed from Law-maker to Law-takers
- Role of States are changing from regulator to facilitators
- Many governments see their role as not to regulate markets but to facilitate their expansion.
- Globalization and regional interactions are wiping out national borders and weakening national policies.

Forces and Phases Shaping the Global and Indian Defence and Security

- **5 Forces reshaping the global defence and Security industry**
- 1. New actors: 2. New technologies: 3. New Frameworks 4. New Rules and 5. New budget and funding realities
- **5 Phases of India's defence industrialisation**
- (1) from independence till the mid-1960s, when self-sufficiency was an overall economic principle behind India's industrial development;
- (2) from mid-1960 till the mid-1980s, when the term self-reliance replaced self-sufficiency in defence production;
- (3) from mid-1980s till the early 2000s, when the emphasis on self-reliance was through co-production;
- (4) from the mid-2000s to late 2014, when self-reliance was tried through greater participation of the Indian private sector.
- (5) With the Modi government coming to power, Make in India has become the new model.

Forces reshaping the global defence and Security industry

- **New actors:** Defence and security companies face increasingly competitive environments filled with new actors from emerging markets and adjacent industries, many applying disruptive business models to increasingly constructive effect.
- The entry of a variety of emerging market companies that maintain the flexibility to offer 'good enough' solutions, technology transfer, and favourable financing terms has been a feature of export markets for several years
- In addition, demand for defence- and security-focused solutions in the cyber/information domain, new materials, wearable/flexible electronics, unmanned systems, artificial intelligence, big data analytics, and navigation and communication technologies are driving convergence between security and defence requirements and capabilities
- Dismissing the potential effects of high-tech companies—as competitors, partners, and merger and acquisition targets—on the global defence market will leave traditional industry actors vulnerable to powerful disruptive market shifts.

Forces Reshaping the Global Defence and Security Industry

- **New technologies:** Development, proliferation, and clever use of a range of emerging technologies have the potential to rapidly transform end-user capability requirements and shatter assumptions about the types of models that will enable success for corporate activities.
- Four categories of capability revolutions stand out: perception, processing, and cognition; human and materials performance; communication, navigation, targeting, and strike; and manufacturing and logistics.
- For example, the increasing incorporation of a range of advanced manufacturing techniques— especially additive manufacturing but also augmented-reality manufacturing—and growing research in novel materials such as composites will have significant and durable implications for all AD&S industry activities.
- Moreover, investment in next-generation manufacturing technologies, like synthetic biology manufacturing and 4D printing (and the smart materials required for 4D printing) signal a longer-term, but even more disruptive, shift in industry models and the capabilities industry will be asked to develop

Forces Reshaping the Global Defence and Security Industry

- **New frameworks:** The intersection of industry drivers with broad 'megatrends' related to economics, geopolitics, demography, immigration, challenges to Westphalian concepts of state sovereignty, and climate change will have far-reaching implications for global defence communities and the industry that supports them.
- The unravelling of current geopolitical frameworks and evolving economic realities related to global debt, slow growth, and emerging-market 'mid-life crises' will be particularly affecting for the future of the global defence industry.

Forces Reshaping the Global Defence and Security Industry

- **New rules:** Managing supply chains and business resilience amid increasing regulations focused on counterfeiting, cyber security, corruption, climate change, and conflict materials will bring new risks and constraints on partner identification and could even further constrain the nature of the markets to which companies can sell.
- In addition, innovation in defence and security products and services will require (indeed, stimulate) new laws and regulations to assuage legal, safety, security, business, infrastructure, and ethical concerns; think of ongoing legal, ethical, and security discussions related to technology areas such as human performance enhancement, autonomous strike, armed drones, near ubiquitous sensors and surveillance, and big data analytics technologies.

Forces Reshaping the Global Defence and Security Industry

- **New budget and funding realities:** The current environment of constrained procurement budgets will be matched by enduring spending crunches in research, development, testing, and evaluation (RDT&E) budgets across several regions later in this decade.
- The global defence industry is experiencing several enduring and intersecting technological, competitive, and market transitions that will impact both immediate and distant opportunities and risks.
- Cultivating new mindsets and perspectives through scenario planning will be critical to ensuring the agility and resilience necessary to navigate unsettled environments and a growing collection of risks and opportunities.

Indian Defence Industrialisation Phases

- India's defence industrialisation can be divided into five different phases:
- (1) from independence till the mid-1960s, when self-sufficiency was an overall economic principle behind India's industrial development;
- (2) from mid-1960 till the mid-1980s, when the term self-reliance replaced self-sufficiency in defence production;
- (3) from mid-1980s till the early 2000s, when the emphasis on self-reliance was through co-production;
- (4) from the mid-2000s to late 2014, when self-reliance was tried through greater participation of the Indian private sector.
- (5) With the Modi government coming to power, Make in India has become the new model.

Phase 1. The Quest for Self-Sufficient

- India's defence industrialisation immediately after independence was influenced by the country's socialistic and centralised planning system reflected in the first Industrial Policy Resolution adopted in 1948.
- The resolution emphasised the importance to the economy of securing a continuous increase in production and its equitable distribution, and pointed out that the State must play an active role in the development of industries.
- The resolution, which was revised in 1956, reserved the key industries – including arms and ammunition, railways, air transport and atomic energy – in the domain of the public sector and the State assumed the exclusive right for their development.
- The quest for self-sufficiency got a further push by the 1954 US-Pakistan strategic partnership and the border tension with China which became intense in the late 1950s. In 1954 Bharat Electronics Ltd (BEL) was set up with French assistance. The government also acquired two shipyards – Mazagon Dock Ltd and Garden Reach Shipyard – and placed them under the control of MoD with the intention of undertaking naval construction.

Phase 2. Self-Sufficiency to Self-Reliance

- The events of the 1960s, particularly the 1962 war with China and the India- Pakistan war of 1965 brought about a major change in India's defence policy. Not only India's defence budget as percentage of GDP increased in the subsequent years but also the approach towards arms procurement policy and indigenous defence production changed.
- On its part, given the Cold War politics, the Soviet Union was willing to provide arms and assistance to India on terms which were considered favourable to New Delhi.
- A major beginning of this close cooperation was made with the MiG-21 aircraft (signed in October 1962), which paved the way for the aircraft's licence manufacture by HAL. By 1980, roughly 70 per cent of Indian military hardware was of Soviet origin
- In this phase of India's defence industrialisation, the focus was more on licence production rather than on indigenous production. Apart from MiG- 21, a number of other programmes were taken up for licence production, including tanks, destroyers, etc.
- By the end of the Cold War, India was overwhelmingly dependent on the Soviet Union: 100 per cent for ground air defence, 75 per cent for fighter aircraft defence, 60 per cent for ground attack aircraft, 100 per cent for tracked armoured vehicles, 80 per cent for tanks, 100 per cent for guided missile destroyers, 95 per cent for conventional submarines and 70 per cent for frigates

Phase 3. Self-Reliance through Co-production

- Beginning with the mid-1980s, the government pumped up resources on R&D to enable DRDO to undertake high-profile projects. A major beginning in this respect was made in 1983 when the government sanctioned the Integrated Guided Missile Development Programme (IGMDP) at the initial cost of Rs 388.83 crore to develop four missile systems – Prithvi (surface-to-surface), Akash (surface-to-air), Trishul (naval version of Prithvi) and Nag (anti-tank) – and a Technology Demonstrator, Agni.
- In the same year, the government also sanctioned the Light Combat Aircraft (LCA) at a cost of Rs 560 crore to develop an indigenous fighter aircraft.
- The indigenous efforts were however not adequate to meet the growing requirements of the armed forces. This forced the government to look for alternatives from external sources
- Apart from Russia, India has also signed joint developmental programmes with Israel, which has become one of the top suppliers of arms to India. Cementing the growing defence trade between Tel Aviv and New Delhi,

Phase 4. Self-Reliance through Private Sector Participation

- While co-development/co-production remains a distinct feature of India's defence industrialisation process since the late 1990s, the approach towards self-reliance has taken a major turn since the early 2000s, when the government decided to allow 100 per cent participation of the private sector in defence production. However, the liberalisation process has been a long-drawn-out process, dating back to the constitution of six task forces in 1998 to explore the question
- Consequent to their recommendations, the government finally opened the defence industry in 2001 to the private sector, with the further provision of foreign direct investment (FDI) of up to 26 per cent.
- This did not however mean an easy access to defence contracts as MoD's Defence Procurement Procedure (DPP) – which stipulates detailed rules and procedures for capital procurement and the source of procurement– did not have enough provisions to facilitate private companies' participation in defence contracts.
- In order to create such provisions, successive DPPs have included a host of enabling provisions that include an offset clause, two new procurement categories – Make and Buy and Make (Indian) – and a host of other measures

Phase 5. Self-Reliance through Make in India Initiative

- The Make in India initiative is not restricted to the defence industry; it covers 25 diverse sectors and constitutes a part of the Modi government's larger economic plan to propel the share of manufacturing in GDP to 25 per cent (from 16 per cent at present) and create 100 million additional jobs by 2022
- Also, the model is not very different from the previous model: both of them focus on achieving the same broad goal of self-reliance in defence manufacturing through greater participation of the private sector
- The new model reposes a great deal of trust with the private sector. More importantly, to facilitate private sector participation the government has brought in a host of 'ease of doing business' measures, besides bringing in an element of decisiveness in decision making
- the Modi government has already taken several broad reform measures pertaining to the defence industry. These pertain to industrial licensing, FDI cap, defence exports and level playing field between private and public sectors.
- The reform in licensing which came in the form of a series of government notifications issued between 26 June 2014 and 22 September 2015⁴⁰ is an attempt to codify and simplify the process of granting industrial licence (IL) and remove procedural hurdles and other complexities in the process..

Recent Developments in Defence Technology

- Towards the onset of the 21st century, India opened its doors to liberalization and progressive economic reforms.
- The era of State-run enterprises and centrally planned economy took a back-seat and paved the way for arrival of the private sector.
- The private sector was given complete access to the defence industry.
- Introduction of the 'Make' type of procurement in the Defence Procurement Policy 2006 allowed the industry to develop and produce advanced defence equipment, with government commitment to provide 80% of the development costs.
- FDI of 49% was also permitted in the defence sector. However, the government continued its reliance on import of advanced weaponry, with new fighter aircraft such as the Sukhoi 30 MKI being inducted into the Air force, submarines and missile destroyers being purchased for the navy and howitzers such as the BOFORS system being purchased for the army.
- In an attempt to boost domestic procurement, the government changed the order of preference in procurement under the Defence Procurement Policy of 2013- making it a preferred choice to develop, design or manufacture defence equipment indigenously.

International involvement in India

- The Indian Defense sector has established its presence worldwide by a continuous progressive escalation and showing tremendous progress in infrastructural development in the area of nuclear and rocket technology. India is the largest importer of arms in the world with the amount going as high as 60% of its requirements
- Various global defence companies have increased their investments into India. There have been various joint-venture announcements in the sector in the last two years. Major A&D companies such as, Airbus, Boeing, Lockheed Martin, and Safran already have a footprint in the Indian market, with some of them planning further investments.
- For instance, Airbus announced a joint-venture with Mahindra Defence Systems last year to manufacture helicopters for the Indian military.
- Similarly, Boeing entered into a joint-venture with Tata Advanced Systems in December 2015, wherein they will manufacture fuselages of *Apache* Helicopters in India
- One of the largest defence contracts in history is the Medium Range Multi-Role Combat Aircraft deal with the French manufacturer *Dassault* for 36 *Rafale* fighter jets

Issues and Challenges

- India's pace of defence modernisation has been slow because of a number of inherent holes in the system, such as the lack of a National Security Strategy doctrine, or a long-term strategic defence plan, which are impediments in terms of evolving a clear-cut strategy to meet the defence requirements of the Armed Forces by making a thorough analysis of the security challenges in the immediate regional security environment.
- Moreover, India's inability to produce advanced, sophisticated weapons systems and advanced defence technologies indigenously has severely affected its aspirations of becoming self-reliant in defence production, thereby remaining heavily dependent on foreign sellers for defence purchases, which in a way or other, do expose India's vulnerabilities
- India's indigenous defence production capabilities have, however, not grown because of a number of challenges.
- There is a lack of the greater political will that has severely affected decision-making in terms of acquiring weapons on time as per the needs of the Armed Forces.

Issues and Challenges

- The Indian defence industry suffers because of under-utilisation of human resources that has negatively affected India's defence R&D base.
- Because of the unfriendly defence industrial procurement system, it has resulted in few co-development and co-production ventures with foreign firms.
- The lack of a conducive financial framework for the local industry to do business in the defence sector, especially for the private sector, has also negatively impacted private participation in the defence sector.
- Therefore, the urgent focus for the Indian government should be to encourage private individuals and entities in India that could contribute in indigenous defence production.
- This would mean that India would achieve its goal of self-reliance only if it allows more private players in India to participate in the defence sector, and the true potential of the Indian minds are utilized.
- However, Government of India has taken a number of measures to increase the participation of Indian companies in the Defence Sector. From liberalizing the licencing regime to making remarkable changes in the Defence Procurement Procedures.

Recent Govt. Initiatives

- Presently, India is one of the largest importers of conventional defence equipment. According to government statistics, roughly 60% of India's defence requirements are met through imports.
- India has the potential to emerge as a global platform for defence research, manufacturing, supply chain sourcing, software development, and offsets, which will strengthen our defence capabilities and spur industrial development as well as exports in this sector.
- Government is also carrying out reforms in defence procurement to increase efficiency, invite foreign players with excellent capabilities and encourage domestic industry. It has introduced policies to strengthen technology transfer, including liberalized FDI in defence production.
- Also, Make in India the new flagship program of Government of India has put a renewed emphasis on creating a conducive policy environment for improving domestic defence manufacturing
- This will also further India's objective to create jobs, catalyze technology development, and transform India into a self-reliant nation with export capabilities in defence sector. India's existing wealth of talent, technology and cost advantages together can help make defence products globally competitive

Recent Govt. Initiatives

- The private sector is expected to assume a bigger role in transforming the “Make in India” vision into reality.
- To this end, several initiatives have been taken - FDI norms have been relaxed; the list of items to be manufactured under industrial licences has been substantially revised; the industrial licensing process has been streamlined and the licence validity extended; and exchange rate variation protection has been made applicable to the Indian private sector at par with PSUs.
- The new Defence Procurement Procedure (DPP) 2016 also focuses on achieving self-reliance in design, development and manufacturing
- A new procurement category –indigenously designed, developed and manufactured (IDDM) - has been introduced.
- The offset policy has been relaxed to encourage engagement from foreign OEMs and the export regulations have been simplified

What Further We Need to Do?

- However, the government and the industry would together have to iron out several issues such as inadequate investments in innovation and R&D, bureaucratic delays in procurement, a limited vendor base, non-conformity of the offers with request for proposal (RfP) conditions, long field trials, complexities in contract negotiations, and long lead times for indigenisation, to achieve a faster turnaround of capital acquisition projects
- Further Indian Private Industry including Larsen and Toubro, Ashok Leyland, Mahindra and Mahindra, Reliance Infra, Tata group, Adani Group etc., should be involved in defence manufacturing to produce military platforms like fighter jets and submarines in India.
- This kind of discussions government can boast the private participation under Make in India framework and create domestic expertise in key areas, specifically, fighter aircraft, helicopters, submarines, and armored vehicles & main battle tanks.

Why Defence Law Education?

- Defence studies, War studies, Strategic studies as currently taught in a handful of Universities of India..
- Teaching and research activities are done in few universities of India, having as its primary focus on India's national security.
- In all departments of Defence studies the approach to the study of national security as interdisciplinary and such encompasses such as aspects like Geopolitics and Military Geography, Science and Technology, Economics of Defence, Conflict Management and Conflict Resolution etc.
- However these universities despite their commendable efforts are unable to provide a wholesome education and knowledge having due regards to the international legal framework, world politics and contemporary practices.
- National defence is not only the obligations of peoples who are in armed forces but it is a responsibility of the all citizens of a nation.
- The aim of the defence studies is closely related to other spheres of life.
- Hence the course will target not only defence personnel of the country but will attract numerous scholars across the globe who are engaged in research related activities in defence and strategic studies.

Why Defence Course at NALSAR?

- About the NALSAR- NALSAR University established by Act 34 of 1998
- NALSAR consistently ranked as one of the best Law University in India.
- NALSAR is approved by the BCI and UGC. It has been graded as Category-I University by the UGC for Grant of Graded Autonomy Regulations, 2018.
- NALSAR has been accredited by NAAC A+ with 3.60 CGPA out of 4.00.
- NALSAR University has always endeavoured to promote quality research in contemporary legal issues. One of the contemporary but neglected areas in Indian legal realm is Defence and Security Laws.
- To fill that gap and to promote further studies and research in the defence laws, the University is offering this Master's Degree in Defence and Security Laws, PG Diploma in Advanced Maritime Laws
- None of the programmes till date have focussed on the legal aspects of defence and security studies..

Why Defence Course at NALSAR?

- Hyderabad: Hub of India's aerospace and defence industries
- NALSAR: Pioneer of Legal Research; Forefront in introducing Innovative Legal Courses
- NALSAR always endeavors to promote quality research in contemporary legal issues.
- One of the contemporary but neglected areas in Indian legal realm is Defence and Maritime laws.
- With an objective of bridging the gap between Law and defence studies intends to offer this programme with an intention to equip the course participants with national and international legal framework governing the defence industry in the world, at regional levels and in India
- The course would further train the participants in developing a strong foundation in management and governance of the defence sector by drawing from experiences across the globe and comparing the same in Indian context.

Rationale of Defence and Security Studies

- National defence and security has since time immemorial assumed a paramount role in determining national policies and assessing their impact on international peace and conflict.
- Threats and perceptions of threats from near and far neighbors of a country is an ongoing concern of every nation state in world politics at any point of time
- Security of a nation is influenced by its political stability, geostrategic environment, economic and international relations and the strength of its armed forces.
- Determining the nature of security and drawing appropriate defence policies and responses involves national consensus, coordinated approach by the nation's decision-making security and civilian institutions and the availability of resources and capabilities.
- The new techniques and changes have transformed the nature of war from its mercenary character to that of nationalized and total war. In this modern era every citizen from a country is involved in the process of war directly or indirectly

Rationale of Defence and Security Studies

- National Defence and security is of prime importance for any Government or nation.
- National Defence means the protection of a country against foreign invasion or aggression.
- We have several hostile neighbors like Pakistan and China. Unless we improve our relationship with Pakistan and China, strengthening defence sector is an unavoidable necessity.
- During the period of over 65 years of our country's existence since Independence, there has been invasions and aggression.
- This also means that in spite of our country's efforts to maintain peace in the region and with a population of peace loving nationals, we have been forced to devote a great deal of thought to the necessity of National Defence.
- The aim of the defence studies is closely related to other spheres of life.
- Hence the course will focus not only defence personnel of the country but will attract numerous scholars across the globe who are engaged in research related activities in defence and strategic studies

Defence and Security as Academic Discipline

- Defence studies as an academic discipline is broadly conceived to encompass all issues-both domestic and strategic-that can affect national defence and national security interests.
- Recognizing the importance and role of the Defence studies various countries like Australia, Britain, China, France, Germany, Japan, Pakistan, Russia, U.S.A, and many other countries of the world introduced Defence studies as an academic discipline in their countries at university, college and school level.
- Defence studies promote the development of military education and creation of awareness about National security among civilians.
- Defence studies, War studies, Strategic studies as currently taught only in a handful of Universities in India.
- Teaching and research activities are done in many universities of India, having as its primary focus on India's national security.
- In all departments of Defence studies the approach to the study of national security is interdisciplinary encompassing disciplines like Geopolitics and Military Geography, Science and Technology, Economics of Defence, Conflict Management and Conflict Resolution.

Who made it and why?

- With the support from various organisations such as Ministry of Civil Aviation, Ministry of Defence, ISRO, Surveyor General of India and representatives of the Telecommunications industry and private sector.
- Why? NALSAR's initiative crystallizes an academic – industry partnership in the domain of Air Transport Management, Aviation, Space and Telecom Laws which makes the programme first of its kind not only in India but also in this part of the world.
- About the CADL-. It is the only University in India which can proudly reveal the fact that it has offered Special courses in Aerospace and Defence Laws at UG and PG level and has been produced many students as Experts in the same domain.
- Suffice it to say, NALSAR is the one and only University which has established a dedicated centre for Aerospace and Defence Law in India
- This course is intended to attract students who are either currently employed in posts relating to Security Cooperation or those individuals who generally have an interest in issues pertaining to defence and security.

Why This Course?

- In order to create a cadre of Legal and management professionals in Defence technology, NALSAR University has conceived an innovative Masters Programme in Defence Technology and Security Laws.
- The course is conducted by the Centre for Aerospace and Defence Laws (CADL), NALSAR University.
- The course aims at producing Legal and management professionals who will be required to work in a large growing military- industrial complex in the country. India is emerging as one of the leading military powers in the world.
- The initiatives by the Defence Research Organisations along with the Public and Private sectors, has opened new windows of opportunities for skilled and trained professionals in the domain of Defence both in government and private sectors.

Why These Courses?

- National defence and security has since time immemorial assumed a paramount role in determining national policies and assessing their impact on international peace and conflict.
- Contemporary Developments in the Security, Defence and Maritime Laws:
 - escalating globalization of economies
 - liberalization of national defence and maritime policies
 - new technological developments in domestic defence and maritime industry
 - Recent increase in bilateral agreements on pertinent aspects of defence and maritime issues
 - Current policies of the government primarily the Make-in-India policy

How this Course Helps Defence Professionals?

- The course, M.A. (Security and Defence Laws) is designed in order to meet the requisites of the users of the Armed services, designers of Defence technology, manufacturers in Defence industries in the public and private sectors and educators and institutions engaged in academic programmes pertaining to Defence Technology and Security related areas.
- Hence this course offers tremendous scope for developing knowledge-base in specialized areas and provide wide ranging career opportunities in Technological development, Management, Legal Aspect of Defence Industry, Defence Production, Research and related industries spread all over the country.

Objective of the Course

- To provide the course participants an opportunity to impart legal knowledge and skills in national security studies, and enhance their career prospects for the purpose of attaining their personal and professional goals.
- To develop participants' capacity to understand, critically assess and provide practical solutions to the type of problems commonly encountered in the practice of Law.
- To provide with an advanced knowledge and understanding of the theoretical underpinnings of different fields of Law and the skills required in practice.
- To bring together the best legal minds in India and abroad which would include leading academics, practitioners and industry professionals with special expertise, as well as visiting international scholars.
- The course participants will benefit from a rich educational environment while intermingling with professionals from many backgrounds and industries and building the specialized expertise and experience needed to gain a cutting professional edge.

Conduct of Programme

- **Onsite Sessions:** Each paper is conducted by the experts in their respective fields who will apart from creating a strong theoretical base would also seek to impart information on practical and contemporary issues involved in the working of the aviation industry through mock exercises and case study methods during the onsite sessions.
- The onsite session will be conducted in each semester for Seven days for Masters and 5 days for PG Diploma and will be held in the NALSAR Campus.
- **Online Sessions:** Such theoretical and practical dispersion of the knowledge so received during the Onsite Sessions is sought to be enhanced through the Online E-Learning Sessions.
- Relevant course materials will be updated on the web-site and the course participants will be given a user-id and password through which they can access these online reading materials.
- Participants can also have one-to-one discussions with the course experts through the online mode as well.

Evaluation Scheme

- Each paper shall carry 100 marks. The distribution of marks shall be as follows:
- Assignment(s):30 Marks
- End Semester Examination: 70 Marks
- Pattern of Examination:
- Section A- 50 Marks (5 out of 7 Questions) (10 marks each)
- Section B- 20 Marks (4 out of 6 Questions) (5 marks each)
- End-Semester Exam Dates- Duration of Exam-2 hrs 30 mins
- 14 December, 2019-Paper I- 9:30 A.M- 12 P.M; Paper II- 2:30 P.M- 5 P.M
- 15 December, 2019- Paper III- 9:30 A.M- 12 P.M; Paper IV- 2:30 P.M- 5 P.M

Awards of Grades

Percentage of Marks	Grade	Grade Value
80 and above	O (outstanding)	8
75 – 79	D	7.5
70 – 74	A++	7
65 – 69	A+	6
60 – 64	A	5
55 – 59	B+	4
50 – 54	B	3
Below 50	F (Fail)	0

Description of Course Structure

- Semester I
 - General Principles of Law
 - International Security, Diplomacy and Conflict Resolution
 - Defence Technology and Defence Laws
 - International Institutions and Global Security
- Semester II
 - Defence Management and Strategic Studies
 - Defence Contracts and Tenders
 - Defence Procurement Policies: National and International Perspectives
 - Defence Laws and Policies in India
- Semester III
 - Regional Security and Global Governance
 - Terrorism and Counter Terrorism
 - Aviation, Space and Maritime Security Laws
 - Cyber Space, Cyber Security and National Defence
- Semester IV
 - Dissertation

Paper on General Principles of Law

- The paper is designed with the intention of providing the course participants with an overall understanding of the fundamental concepts and principles of law and also develops an in-depth base on the functioning of law in government, society and our lives.
- This paper broadly divided into five modules:
- Module I – Discuss about the definition, nature, scope, sources and importance of law.
- Module II – Indian Constitution and administrative law including nature history and development, salient features of the Indian Constitution. This module briefly covers the important features of administrative law. This Module also covers Indian Judicial and Legal Systems including Indian Judiciary, Civil and Criminal Court Structure. This module also briefly touches the ADR Dispute settlement and Quasi Judicial Settlement mechanisms
- Module III - Fundamental Aspects of Law and its Relevance to Air Law including subjects like law of torts, consumer laws, criminal laws, intellectual property laws, cyber laws etc. and their relationship with International and domestic Air laws.
- Module IV - Fundamental Aspects of Corporate Laws and its Relevance to Air Laws including relevant areas of corporate laws , contract law, company law, competition law, insurance law, taxation law and their relationship with aviation sector in India.
- Module V: Project Writing and Research Methodology.

Paper on International Security, Diplomacy and Conflict Resolution

- Module I: INTERNATIONAL RELATIONS AND SECURITY - Introduction to International Relations: Origins and Changing Agenda of the Disciplines, Theories of International Relations, Modern State, Nations and Nationalism, Introduction to International Security and International Relations
- Module II: DIPLOMACY, CONFLICT RESOLUTION AND PEACE-KEEPING - Diplomatic Theory and Practice, Types of Diplomacy, Conflict Dynamics and Conflict Typology, Theories and Practices of Peace-Keeping, The Emergence and Development of the Field of Conflict Resolution, The Relationship between Conflict Resolution and Peacekeeping.
- Module III: ISSUES IN CONFLICT RESOLUTION - Life-Cycle of a Conflict, Conflict Prevention and Conflict Management, Pacific (Amicable) Methods of Conflict Resolution, Coercive Methods of Conflict Resolution, International Humanitarian Laws and Laws of Armed Conflicts, Confidence Building Measures: Concept, Kinds & Utility, IGOs and International Conflict, NGOs and International Peace-Keeping
- Module IV: CONTEMPORARY TRENDS: GLOBALIZATION AND GLOBAL GOVERNANCE - Globalisation and its Impact on International Relations, International Institutions and Global Governance, Secularism and World Politics, Religion and International Relations, Disarmament and Arms Control, International Terrorism

Paper On Defence Technology and Defence Laws

- MODULE I: DEFENCE TECHNOLOGY AND APPLICATIONS - Equipment and Technology Requirements, Battlefield Transparency, Combat Systems and Future Combat Systems, Communication Systems, Rocket and Missile Systems, Directed Energy Weapons, Advanced Material Technology, Military Intelligence, Non-Lethal Weapons and Autonomous Weapons System (AWS).
- MODULE II: DEFENCE TECHNOLOGY AND DEFENCE LAW - Background to Defence Technology and Policy, Technology Diffusion, Proliferation and Disarmament, Technology and Export Controls, New Technologies and Legal Policies: The Legal Gap
- MODULE III: DEFENCE INDUSTRY AND ToT AGREEMENTS –Strategies for ToT, Structure for ToT, Nature and Types of ToT Arrangements, Legal Instruments necessary for ToT, Issues and Challenges of ToT
- MODULE IV: DEFENCE TECHNOLOGY AND IPR ISSUES - IPR and Defence, DPP, 2016 and IPR, ToT and Relevance of IPR, India's Indigenous Development in Defence and IPR Challenges, Adequacy of IPR Protection Laws, Building Clarity in the IPR issues in Defence Production

Paper on Int. Institutions and Global Security

- MODULE I: ORIGIN & DEVELOPMENT OF INTERNATIONAL INSTITUTIONS: A GLOBAL SECURITY PERSPECTIVE - Concept of International Institutions, Concept of Global Security, Role of International Institutions in maintaining global peace and security, First World War & the issue of Global Security, Emergence of League of Nations, Second World War & the decline of League of Nations.
- MODULE II: UNITED NATIONS & GLOBAL SECURITY - Emergence of UN, Organs of United Nations, Principle of Maintenance of international peace and security, Collective Security, Preventive Diplomacy, Role of Security Council & Global Security and From Peace-Keeping to Peace-Building.
- MODULE III: INSTITUTIONAL MECHANISM TO COMBAT INTERNATIONAL CRIMES & WAR - Fundamentals of International Criminal Law, Extradition and Asylum, International Police Cooperation, Nuremburg and Tokyo Tribunal, International Criminal Court, International Criminal Tribunal for Yugoslavia and Rwanda, International Humanitarian Law, Limitation on Means and Methods of Warfare, Law of International and Non-International Armed Conflicts.
- MODULE IV: INTERNATIONAL CONVENTIONS/TREATIES ON WEAPONRY - Convention on Certain Conventional Arms, CTBT, Nuclear Proliferation Treaty, Arms Trade Treaty 2014, Additional Protocol I to Geneva Convention, SALT I and II, START I and II, SORT, TTBT, Treaty on Prohibition of Nuclear Weapons, ICOC, and Convention on Cluster Munitions.

Paper on Defence Management and Strategic Studies

- Module I: PRINCIPLES OF MANAGEMENT - Introduction to Management including nature and Process of Management, Functions and Dimensions of Management, General Theories of Management, Managerial Roles, Skills, Competencies, Organizational Planning, Organization, Directing and Motivation, Leadership, Control and Coordination in Organizations.
- Module II: DEFENCE MANAGEMENT AND STRATEGIC STUDIES - Principles of Defence Management, Accounting for Defence Management, Organisational Behaviour for Defence Forces, Human Resources and Communication Management, Strategic Management in Defence Establishment, International Conflict Management, Internal Security Management, South Asian Security and Conflict Management
- Module III: ECONOMIC, SCIENCE & TECHNOLOGY ISSUES AND NATIONAL SECURITY - Broad Survey of Technological Changes from Industrial Revolution to Information Revolution, Economic Theories of Defence., Basics of Defence Planning, Determinants of Defence Expenditure and Defence Budgeting., National Security and International Trade regimes (WTO, TRIPS, TRIMS, NAFTA, SAPTA), Issues of Mobilization of Resources during War and Peace., Transfer of Technology: Dual use and critical technologies and their impact on national security
- Module IV: DEFENCE MANAGEMENT AND STRATEGIC STUDIES; RECENT DEVELOPMENTS- This module covers the recent management challenges including the challenges posed by technologies. Further, this module also covers the challenges in strategic studies both national and international context.
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Paper on Defence Contracts and Tenders

- Module I: FUNDAMENTALS OF LAW OF CONTRACTS - Essentials of Law of Contracts, Offer and Acceptance, Consideration, Capacity to Contract, Consent including Meaning and Concept, Elements which affect the Consent of the Parties, Mistake, Misrepresentation, Fraud, Coercion, Discharge and Breach of Contract and Remedies for Breach of a Contract.
- Module II: APPLIED CONTRACTS FOR DEFENCE SECTOR - Contract of Pledge, Contract of Agency, Contracts of Indemnity and Guarantee, Contract of Bailment.
- Module III: INTERNATIONAL CONTRACT LAW: NORMS AND DRAFTING GUIDELINES - International Contractual Negotiations, Principles for Drafting of International Commercial Contracts, Norms for Drafting International Commercial Contracts, INCOTERMS: International Commercial Terms published by ICC including Incoterms 2010, Incoterms in Government Regulations, General Transport, Sea and Inland Waterway Transport, Allocations of costs to buyer/seller according to Incoterms 2010, Previous terms from Incoterms 2000 eliminated from Incoterms 2010
- MODULE IV: LAW RELATING TO TENDERS and BIDDING - Nature, Scope and Meaning of Tender and Tendering Process, Auctions (including rate and running contracts), Tendering Process and Guidelines, Tendering Construction Contracts, Tendering Consultant Contracts, Public Sector Tendering, Sub-Contract Tendering, Tendering Risks, PFI-PPP-DBFO Contracts, Turning tenders into Contracts, Tender Abuses, Right to Information Act, E Contracts and E Tenders

Paper on Defence Procurement Policies: International and National Perspectives

- MODULE I: INTRODUCTION TO PROCUREMENT AND DEFENCE PROCUREMENT CONCEPTS Concepts of Public Procurement and Defence Procurement, Public Procurement and Innovation: From theory to practice, Public Procurement Process and Organizations, International Framework for Public Procurement, Global Procurement Trends and Practices, Conceptual Framework in Defence Procurement:
- Module II: EXPORT CONTROL REGIMES - Zangger Committee Report 1971, Nuclear Supplies Group 1974, Australia Group 1985, Missile Technology Control Regime 1987, Wassenaar Arrangement 1996, US International Traffic in Arms Regulations 1976
- Module III: DEFENCE PROCUREMENT: GLOBAL PERSPECTIVES - E-Procurement including key Issues in E-Procurement, Facilitators of Public E-Procurement: Lessons Learned from the U.K., U.S., and Australian Initiatives, Evaluation of Public E-Procurement Services Accessibility: A Multi-criteria Approach, E-Procurement Management in State Governments, Open Procurement, Harnessing the 'PPP' Model in Defence Acquisition, Defence and Security Public Contracts Regulations of UK 2011, UK Defence Reforms Act 2014, UN Arms Trade Treaty 2014, EU Standards and Best Practices in Defence Procurement, Bribery and Corruption in Defence Procurement Practices: Foreign Corrupt Practices Act USA 1977, UK Bribery Act 2010, Similar legislations across the world, Challenges of Defence Procurement: A User Perspective
- Module IV: DEFENCE PROCUREMENT IN INDIA - Changing Landscape of India's Defence Sector: Investments, India's Defence Procurement Policies 2006-2013 Overview, Defence Offset Policies and Impact on Indian Defence Industry, Taxation Policy, FDI Policy on defence Procurement, Impact of India's Offset Policy on Military Industrial Capability and Self-Reliance, Defence Acquisition and Process Reforms: Indian Army's and Indian Air Force Perspective

Paper on Defence Laws and Policies of India

- Module I: INSTITUTIONAL FRAMEWORK FOR DEFENCE GOVERNANCE IN INDIA includes the British Period including brief Military History of India, British Indian Army, Indian National Army, Higher Defence Organisation in India, Ministry of Defence, Integrated Defence Staff, Defence Intelligence Agency, Defence Acquisition Council, Chief of Staff Committee, Defence Educational Institutes in India, Paramilitary Forces (Ministry of Home), Intelligence Agencies, Other DRDO enterprises and legislations and Role of Non-State Actors.
- Module II: LAW RELATING TO DEFENCE SECTOR IN INDIA includes Military Doctrines, Maritime Laws of India including evolution of Naval Laws, Maritime Jurisdiction Act, 1976, Coast Guard Act 1978, Army Act of 1950, Air Force Act 1950, Armed Forces Special Powers Act, Official Secrets Act, Armed Forces Tribunal Act 2007 and Rules, Armed Forces in Aid of Civil Authorities (for law and order and disaster management), Civil Defence Act 1961 and Civil Defence Rules 1968, Police Act, BSF Act and CRPF Act, Defence Services Staff College (DSSC), and Central Government Regulations on Civil Defence Corps.
- Module III : JUSTICE SYSTEM FOR DEFENCE IN INDIA comprises the Idea of Justice and Military Justice System in India, Court Martial System: System and Procedure at Trial, Pre-Trial Preparation, Trial by Court Martial, and Armed Forces Tribunal.
- Module IV : DEFENCE LAND ACQUISITION includes Land Acquisition Laws in India, Recent changes in Land Acquisition Laws, Procurement of Land for Defence Establishment and other purposes, Modes & Strategies of Defence Land Procurement

Paper on Regional Security and Global Governance

- Module I on REGIONALISM: ARCHITECTURE OF PEACE? includes the Historical Development, World Order Politics of Regionalisation, Developing a 'Regional-Global Security Mechanism, Complexities of Regionalism includes Effect on UN Security Planning: The 'Strategic Choice, Regional Security Organizations: NATO, CETO, Warsaw Pact, CENTO.
- Module II on REGIONAL SECURITY includes Security Regionalism, The Multidimensional Phenomenon of Regional Security, Regionalism and Collective Security including a Structure of 'Security Regions', a Structure of 'Chapter VIII of UN Charter - Regional Agencies', Identifying Possible 'Chapter VIII Regional Agencies', The Constitutional Position of the United Nations and Implications for Security Council Reform
- Module III deals with REGIONAL SECURITY ISSUES AND CONTEMPORARY DEVELOPMENTS
- Module IV on REGIONAL SECURITY: SAARC PERSPECTIVE includes Regionalization of Peace in Asia, Realism and Regionalism in SAARC, Military and Strategic Cooperation and Economic Cooperation.

Paper on Terrorism and Counter Terrorism

- Module I on INTRODUCTION TO TERRORISM AND COUNTER TERRORISM comprises of Conceptual approaches to terrorism and terrorists, Counter-terrorism approaches and strategies, Transnational Perspectives to Terrorism including United Nations Security Council, terrorism and the rule of law, Global Anti-Terrorism Law, Cross Border Terrorism, Drug Trafficking, Money Laundering, Espionage, Cyber Terrorism
- Module II deals with UNITED NATIONS AND INTERNATIONAL TERRORISM
- Module III on INTERNATIONAL SECURITY AND TERRORISM includes improving international cooperation in the investigation and prosecution of terrorist, Terrorism: Legal Perspectives, The use of force against terrorists, Interaction between international human rights law and international humanitarian law in the fight against terrorism
- Module IV on ANTI-TERRORISM LAW AND POLICY IN ASIA: A COMPARATIVE STUDY includes Singapore's anti-terrorism laws: reality and rhetoric, Anti-terrorism efforts in Indonesia, Human Security Act and the IHL, Law of the Philippines: of security and insecurity, Responses to terrorism in China, Security laws for Hong Kong, Japan's response to terrorism post-9/11, Mapping anti-terror legal regimes in India

Paper on Aviation, Space and Maritime Security Laws

- Module I: MARITIME SECURITY AND MARITIME MILITARY LEGAL REGIME includes Fundamental Concepts – Maritime Security, Freedom of the Seas, Passage of Warships, Military Activities beyond the Territorial Seas, Law Enforcement and Law of the Sea, Terrorism and Proliferation of Weapons of Mass Destruction, Intelligence Gathering and Information Sharing, Armed Conflict and Naval Warfare
- Module II : INTERNATIONAL LEGAL REGIME FOR GLOBAL AIR SECURITY comprises of Airport Safety & Security including Montreal Protocol on Suppression of Unlawful Acts of Violence at Airports serving International Civil Aviation 1988, Global Air Safety Regulations including ICAO and Air Safety Regulations, International Conventions on Air Transport Security, Anti Hijacking, Aviation Terrorism And Global Regulations, Domestic Implementation of Air Transport Safety Conventions including Carriage by Air Act, 1972, Tokyo Convention 1975, Anti-Hijacking Act, 1982, Unlawful Seizure against the Safety of Civil Aviation 1982, CAR, Open Skies Treaty 1992-2002
- Module III: INTERNATIONAL LEGAL REGIME FOR SPACE SAFETY, SECURITY AND SUSTAINABILITY includes Security for Outer Space Activities, Legal Regime for Outer Space Safety and Security, Space for National Defence including ABM Treaty 1972-74, International Code of Conduct against Ballistic Missile Proliferation (ICOC) – 2002, Missile Technology Control Regime (MTCR), and International Cooperation for Space Security
- Module IV: CONTEMPORARY DEVELOPMENTS comprises of Emerging Technologies including Small Satellites: Their Emerging Role in International Space Security, India's SATNAV Programme: GAGAN and IRNSS, Space-based Signal Intelligence Systems: Global Trends and Technologies, Space Exploration: A Measure of American Collaboration, Strategic Air and Outer Space including the Use of Outer Space for Security and Defence: The European Perspective Space and the Israeli Experience: Geography, Technology, Security.

Paper on Cyber Space, Cyber Security and National Defence

- MODULE I: INTRODUCTION TO NATIONAL SECURITY AND CYBER SPACE includes Conceptual Framework of Cyber Space and Cyber Security, Speculative Security, Operational Considerations in Cyber Attack and Cyber Exploitation and Cyber Crime and Cyber Terrorism
- MODULE II: ARMED CONFLICT AND CYBER DEFENCE includes the Law of Armed Conflict and Cyber Warfare: The Relationship, The Emerging Structure of Strategic Cyber Offense, Cyber Defense, and Cyber Deterrence, A New Framework for Cyber Deterrence, Cyber Conflict, Cyber Power, and Security Resilience as Strategy
- MODULE III: NATIONAL APPROACHES TO CYBER SECURITY AND CYBER WARFARE comprises of Persistent Enemies and Cyberwar: Rivalry Relations in an Age of Information Warfare, Competing Transatlantic Visions of Cyber security, The Bear Goes Digital: Russia and Its Cyber Capabilities, China in Cyberspace, Toward a Theory of Cyber Power: Strategic Purpose in Peace and War
- MODULE IV: CONTEMPORARY ISSUES ON CYBER SECURITY AND WARFARE includes Cyber Space & Cyber Threats: Recent Developments National Operationalization of Cyber Commands, Cyber Defence, Jurisdictional Concerns, Technological Complications : Lessons to be learnt and Roadmap for the future

Dissertation

- The spectacular fast developments in technology in different areas in the beginning of the 20th century, made law-making necessary in this new field of transportation, in peace and in war.
- The course extensively tries to encompass numerous aspects of Security and Defence Law. Given the nature of the course, there are numerous contemporary aspects of the security and defence law that cannot be discussed in detail.
- The main objective of the dissertation component is to assess the research and writing skills of the students as well as to provide a platform for creative legal scholarship and can be refined and submitted for publication in scholarly journals or even serve as the basis for full-length dissertations in doctoral programmes.
- The students are free to select their Dissertation Topic voluntarily but it should be relevant to their field of course.
- The **written Dissertation will carry a total of 150 marks** which will be followed by a **Viva-voce examination carrying 50 marks**. Dissertation shall be evaluated by one examiner and if a student secures a minimum of 50% marks in the written report, he/she may be called for viva-voce examination. In total, a student should secure a minimum of 50% marks in the Dissertation including the written report and viva-voce examination.

Thank You