



**College of Information and Cyberspace
Schedule of Courses
Academic Year 2021-2022
Fall Semester**





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Welcome

Located at Fort Lesley J. McNair on the Washington, DC waterfront, the College of Information and Cyberspace (NDU CIC) is the largest of five graduate-level colleges that comprise the National Defense University. The CIC educates future thought leaders and change agents who will make the difference in government and strives to meet your workforce education needs for information leadership and management.

The CIC Office of Student Services processes admissions and registration, maintains students' academic records, and publishes the CIC *Schedule of Courses*. The Office of Student Services also manages the admission and enrollment systems used by students, faculty and advisors.

Information about our programs and courses is available on our website at <https://cic.ndu.edu/>. Please let us know if you need additional information by contacting the Office of Student Services at 202-685-6300 or by email at CICOSS@ndu.edu.

ENROLLMENT PROCEDURES

Course Registration

Students who are admitted to the CIC at NDU will be sent detailed instructions regarding course registration, account information for online systems, and advisor information. In order to be registered for a course, a course request form must be completed for each enrollment requested. The course request form is available on the CIC website at <https://cic.ndu.edu/Current-Students/Student-Registration/>.

Members of special program cohorts will receive registration instructions from the program director.

IA Compliance and Registration

The National Defense University (NDU) provides all of its students with access to the Internet, wireless networks, curricula, and research tools -- all via Department of Defense (DoD) Information Systems. Access to NDU information systems is predicated on user compliance with DoD/NDU cybersecurity regulations. Students will not be enrolled in a course until all IA compliance requirements have been met and confirmed by NDU IT. Non-compliant students will be placed on the course waitlist until compliance is confirmed. Compliance instructions can be found on the CIC website at http://www.ndu.edu/Students/IA_NonJPME/.

Confirmation of Course Registration

Students will receive a course status email (enrolled/waitlisted) within 7 to 10 business days of their course request. The CIC may send additional reminders and attendance confirmation requests prior to the course start date. Students should promptly respond to requests for information.

Multiple Registrations Policy

Students may register for two DL courses concurrently. Students on an academic probation status must seek permission for entry to multiple DL offerings. Requests must be submitted to the CIC Office of Student Services in writing (CICOSS@ndu.edu; Fax: 202-685-4860) no later than 2 weeks prior to the course start date.

REGISTRATION PERIODS

Registration opens on the dates below and will close on the Thursday prior to the Course Start Date (CSD).

Registration Opens

April 15, 2021
October 15, 2021

Semester

Fall: September 2021 – December 2021
Spring: January 2022 – April 2022

CONFIRMATION OF ENROLLMENT & CONTACT INFORMATION VALIDATION

Students who successfully register for a course section will receive a class acceptance notice to their preferred email address of record.

Please ensure the following contact information is up-to-date with the Office of Student Services:

- Preferred Email Address
- Preferred Contact Telephone Number
- Current Employer

The CIC will make every effort to reach the student prior to taking a drop action should the course section be cancelled. Students are encouraged to contact the Office of Student Services at any time prior to the Course Start Date to verify enrollment or to update contact information.

NDU CIC Office of Student Services

202-685-6300

CICOSS@ndu.edu

COURSE AVAILABILITY IN BLACKBOARD

Each course section has a site on the CIC's online learning platform, Blackboard. This site will be available to students on the course start date. Students must access Blackboard and sign in immediately following the Course Start Date to begin course work. Please note that students will NOT see their course registration in Blackboard until noon on the course start date.

DROP POLICY

Students may dis-enroll at any time prior to the Course Start Date (CSD) via email notification to the Office of Student Services. Students who seek to withdraw from a course after the course start date must complete a Course Withdrawal Form. The form is available on the CIC website at <https://cic.ndu.edu/Current-Students/Student-Registration/>.

In accordance with academic policy, any drop on or after the Course Start Date will result in a grade being assigned in the course. See the online CIC Catalog for the complete grading policy.

Course Models

NOTE

Each course section has a site on the CIC's online learning platform, Blackboard. This site will be available to students at **12:00pm (noon) on the Course Start Date for Distributed Learning (DL) courses**. Students must access Blackboard and sign in immediately following the Course Start Date.

NDU CIC Fall 2021 *Intensive Courses* will be offered in the following format: *Distributed Learning*.

Distributed Learning (DL)

The Distributed Learning (DL) format engages students and faculty virtually over 12 weeks via Blackboard. The first 10 weeks of course, students are engaged in online seminar. The final two weeks is dedicated for assessment completion. The end-of-course assessment is typically a substantive paper or project that allows students to demonstrate their mastery of the intended learning outcomes. To receive credit for a course, students must be actively engaged virtually in every DL lesson as assigned by faculty. Final assessments are due no later than the Monday following the 12th week. Assessments are due no later than the Monday following the 12th week. The last day to withdraw from a DL course is the Monday of the 4th week of class.

DL	Last Day to Withdraw
9/13/2021 – 12/05/2021	10/04/2021

Key Terms

Key terms found in the *Schedule of Courses* or website:

- **Course Number** – Course Number is the four digit identifier of the class. For example, for the course titled “Continuation of Operations,” the Course Number is 6504. The Course Number can be found in the Class Listing section of the *Schedule of Courses* and in the Course Listing page of the CIC website.
- **Course Start Date** – The Course Start Date of a class is the first day of the active learning period. All courses (e-Resident and DL) will require active engagement with the faculty effective this date. See the **DL Format** definition above.
- **Course End Date** – The Course End Date is the final day of the active learning period. See the **DL Format** definition above.
- **Student Arrival** – The Student Arrival date represents the start date of the face-to-face portion of the class. There is no face-to-face portion for Distributed Learning courses. See the **DL Format** definition above.
- **Student Departure** – The Student Departure date represents the end date of the face-to-face portion of the class. There is no face-to-face portion for Distributed Learning courses. See the **DL Format** definition above.

Class Schedule by Course

Please recall that the last day to withdraw from a course with a grade of 'W' is:

Distributed Learning - The Monday of the 4th week of class:

DL	Last Day to Withdraw
9/13/2021 – 12/05/2021	10/04/2021

6000 – Strategic Leader Foundations Course

The SLFC will provide students with a common intellectual foundation essential for success at NDU and the CIC, and longer-term success as strategic leaders. The course will provide a foundation for developing the skills for creative and critical thinking; principles, skills, and challenges of strategic leadership; and an introduction to the strategic aspects of Joint Professional Military Education.

Section	Course Start Date	On Campus		Course End Date	Format/Comment
		Student Arrival	Student Departure		
01	9/13/2021	DL	DL	12/05/2021	Distributed Learning

6159 – National Security Strategy

This course prepares students for strategic level military and government service through the study of national security and cyberspace policies and strategies and their execution through cyber power statecraft. With an understanding of the components of a general theory of strategy and of the U.S. national security architecture as a starting point, students explore the design components of national security strategy, including the instruments and resources of national power. The course then focuses on the features of cyberspace as it continues to evolve as a domain of international security, examining cyber power geopolitics and international relations strategies and statecraft. The course concludes with a strategy game where students design cyber power strategies to achieve desired scenario-based outcomes.

Section	Course Start Date	On Campus		Course End Date	Format/Comment
		Student Arrival	Student Departure		
01	9/13/2021	DL	DL	12/05/2021	Distributed Learning

6201 – Cyber Security for Information Leaders

This course explores concepts and practices of defending the modern net-centric computer and communications environment. The course covers the 10 domains of the Certified Information System Security Professional (CISSP) Common Body of Knowledge (CBK[®]). It covers a wide range of technical issues and current topics including basics of network security; threats, vulnerabilities, and risks; network vulnerability assessment; firewalls and intrusion detection; transmission security and TEMPEST; operating system security; web security; encryption and key management; physical and personnel security; incident handling and forensics; authentication, access control, and biometrics; wireless security; virtual/3D Worlds; and emerging network security technologies such as radio frequency identification (RFID) and supervisory control and data acquisition (SCADA) security. This course also defines the role of all personnel in promoting security awareness.

Learning Outcomes: Students will be able to evaluate the cyber-security posture of an organization to determine adequate people, processes, and technology security.

Section	Course Start Date	On Campus		Course End Date	Format/Comment
		Student Arrival	Student Departure		
01	9/13/2021	DL	DL	12/05/2021	Distributed Learning

6211 - Cybersecurity Fundamentals

This course provides a comprehensive overview of; information security, information assurance, cyber security, risk management, cryptographic solutions, access control, zero trust architecture, cloud computing, critical information infrastructure protection, cyber governance/laws, the deep web & dark web, network security and cyber policy. Information assurance of information assets and protection of the information component of critical national infrastructures essential to national security are explored to include Defense in Depth and security layered approaches. The focus is at the public policy and strategic management level, providing a foundation for analyzing the information security component of information systems and critical infrastructures. Laws, national strategies and public policies, and strengths and weaknesses of various approaches are examined for assuring the confidentiality, integrity, and availability of critical information assets. This course is vital for mid-level and senior-level leaders who need to know the latest tactics, techniques and practices used in the cyber ecosystem.

Learning Outcomes: Students will be able to analyze laws, national strategies, and public policies; and assess the strengths and weaknesses of various approaches for assuring the confidentiality, integrity, and availability of those information created, stored, processed, and communicated by information systems and critical information infrastructures through the use of cyber protection, detection and corrective measures and mechanisms.

Section	Course Start Date	On Campus		Course End Date	Format/Comment
		Student Arrival	Student Departure		
01	9/13/2021	DL	DL	12/05/2021	Distributed Learning

6230 - Critical Information Infrastructure Protection

This course examines the security of information in computer and communications networks within infrastructure sectors critical to national security. These include the sectors of banking, securities and commodities markets, industrial supply chain, electrical/smart grid, energy production, transportation systems, communications, water supply, and health. Special attention is paid to the risk management of information in critical infrastructure environments through an analysis & synthesis of assets, threats, vulnerabilities, impacts, and countermeasures. Students learn the importance of interconnection reliability and methods for observing, measuring, and testing negative impacts. Critical consideration is paid to the key role of Supervisory Control And Data Acquisition (SCADA) systems in the flow of resources such as electricity, water, and fuel. Students learn how to develop an improved security posture for a segment of the nation's critical information infrastructure.

Learning Outcomes: Students will be able to use a people, process, and technology framework to assess a current strategy and devise an improved security strategy for interconnection or for a specific control systems environment within a national critical infrastructure area.

Section	Course Start Date	On Campus		Course End Date	Format / Comment
		Student Arrival	Student Departure		
01	9/13/2021	DL	DL	12/5/2021	Distributed Learning

6328 - Strategic Performance and Budget Management

This course is an executive-level view of strategic planning, performance management, and performance budgeting in public-sector organizations. Using the Government Performance and Results Act and Kaplan & Norton's Balanced Scorecard as frameworks, students examine the linkage of mission to strategic planning, performance management, measurement, operational strategies, initiatives, and budgets to support senior-level decision making. Emphasis is on transparency, outcomes, and linkage between organizational performance and the organization's budget. With this critical understanding, students develop leadership strategies that shape fiscal budgets to achieve agency strategic outcomes.

Learning Outcomes: Students will be able to integrate strategic planning and performance management principles into a public-sector organization assessment to support senior decision-making and strategic communications; compose an appropriate organizational strategy assessment plan and measurement strategy that incorporates performance budgeting into results-oriented government and aids decision makers in leading their organizations toward outcome-based mission effectiveness; define appropriate performance measures that support government organizations and link the organization's mission, vision, goals, objectives, initiatives, strategy, budget, and performance outcomes; analyze the Federal budgeting and appropriations process, identify contemporary and emerging challenges that may affect results-oriented government, and evaluate possible impacts upon their agency.

Section	Course Start Date	On Campus		Course End Date	Format/Comment
		Student Arrival	Student Departure		
01	9/13/2021	DL	DL	12/05/2021	Distributed Learning

6414 - Data Management Strategies and Technologies: A Managerial Perspective

This course explores data management and its enabling technologies as key components for improving mission effectiveness through the development of open, enterprise-wide, and state-of-the-art data architectures. It examines management issues such as the implementation of the data component of the Enterprise Architecture specified by OMB. The course considers key data management strategies, including the DOD Net-Centric Data Strategy, and the Federal Enterprise Architecture (FEA) Data Reference Model and their enabling information technologies including data warehousing, electronic archiving, data mining, neural networks, and other knowledge discovery methodologies. Students explore data management issues and implementation. The course provides sufficient insight into the underlying technologies to ensure that students can evaluate the capabilities and limitations of data management options and strategies.

Learning Outcomes: Students will be able to assess an organization's current data architecture and implementation and develop strategies to enhance them to improve agency mission effectiveness.

Section	Course Start Date	On Campus		Course End Date	Format/Comment
		Student Arrival	Student Departure		
01	9/13/2021	DL	DL	12/05/2021	Distributed Learning

6415 - Strategic Information Technology Acquisition

This course examines the role senior leaders in both government and industry play in the successful acquisition of information technologies and services to achieve strategic organizational goals. Using the framework of the systems development life-cycle, it explores regulatory policies, acquisition strategies, requirements management, performance measurement, and deployment and sustainment activities that directly impact IT acquisition.

Acquisition best practices such as performance-based contracting, risk management, use of service-level agreements, trade-off analyses, as well as the pros and cons for use of commercial off-the-shelf products are explored. Significant focus is placed on contracting issues including; the role of the contracting officer, building a solid request-for-proposal, how to prepare for and run a source selection and the role of oral presentations.

Learning outcomes: Students will be able to evaluate agency information technology acquisition programs using a systems development life-cycle framework to identify and correct deficiencies in strategy, requirements, design, development, test, deployment and sustainment.

Section	Course Start Date	On Campus		Course End Date	Format/Comment
		Student Arrival	Student Departure		
01	9/13/2021	DL	DL	12/05/2021	Distributed Learning

6606 – White House, Congress, and the Budget (For CFO Program Students Only)

This course presents a strategic understanding of Federal budgeting and appropriations, with particular attention to the role of the White House and the Congress. With this critical understanding, students develop leadership strategies to shape the fiscal environment to achieve agency strategic outcomes. The course focuses on topics such as the impact of current fiscal issues including the competition between discretionary and non-discretionary spending and its likely impact upon agency activities, the dynamic interaction between agency, executive and Congressional committees, and staffs in developing a budget and gaining an appropriation.

Learning Outcomes: Students will be able to analyze the Federal budgeting and appropriations process, identify contemporary and emerging challenges shaping the federal budget, and evaluate possible impacts upon their agency.

Section	Course Start Date	On Campus		Course End Date	Format/Comment
		Student Arrival	Student Departure		
01	9/13/2021	DL	DL	12/05/2021	Distributed Learning

6607 – The Future of Federal Financial Information Sharing (For CFO Program Students Only)

This course focuses on the vital role Chief Financial Officers and financial managers have in providing federal financial information. To fully support decision making, this actionable financial information must be timely, accurate, transparent, accountable, and result in “clean” audit opinions. To evaluate the quality of Federal financial information sharing, the course explores the current stovepipes of financial statements, budgetary reporting, program/project cost reporting, and financial standards, as well as a holistic view of crosscutting information such as financial and non-financial dashboards. In addition, successful financial information sharing in the current dynamic environment can be facilitated by financial systems, data management techniques, and effective communication with internal and external users.

Learning Outcomes: Students will be able to identify potential internal and external consumers of Federal financial information and to evaluate the consumers desires and expectations; analyze the changing roles, requirements, and expectations for financial, budget, and program/project financial information in government organizations from legal, policy, and technological perspectives; evaluate financial systems and processes, and data management techniques that support new information sharing challenges; and to design a leadership plan for their organization that responds to current and future expectations for financial information sharing that supports decision making at all levels.

Section	Course Start Date	On Campus		Course End Date	Format/Comment
		Student Arrival	Student Departure		
01	9/13/2021	DL	DL	12/05/2021	Distributed Learning

6700 - Capstone*

The Capstone course is the culminating learning experience of the Government Information Leadership (GIL) Master of Science Degree Program. While enrolled in CAP, students complete a capstone synthesis project in his or her area of concentration. The NDU CIC department responsible for each Master of Science concentration will define the specific nature and detailed requirements for the type of project suitable for the respective concentration and decide how a particular project type is assigned to a specific student.

Learning Outcomes: Students who have successfully completed the Capstone course will be able to integrate critical concepts from their course work, independent readings, and professional practice; apply this knowledge to the analysis of broad, enduring issues in information leadership in their concentration area; and create and present an executive-level project that synthesizes the major themes and conclusions across the concentration in a capstone project.

Section	Course Start Date	On Campus		Course End Date	Format/Comment
		Student Arrival	Student Departure		
00	9/13/2021	DL	DL	12/05/2021	Distributed Learning

***CAPSTONE is the final course for the M.S. degree. CIC Academic Affairs will register candidates for the appropriate section. Students will receive a course confirmation when registration is complete.**

Class Schedule by Date

Course ID	Section	Course Start Date	On-Site Course Start Date	On-Site Course End Date	Course End Date
6000	01	09/13/2021	DL	DL	12/05/2021
6159	01	09/13/2021	DL	DL	12/05/2021
6201	01	09/13/2021	DL	DL	12/05/2021
6211	01	09/13/2021	DL	DL	12/05/2021
6230	01	09/13/2021	DL	DL	12/05/2021
6328	01	09/13/2021	DL	DL	12/05/2021
6414	01	09/13/2021	DL	DL	12/05/2021
6415	01	09/13/2021	DL	DL	12/05/2021
6606	01	09/13/2021	DL	DL	12/05/2021
6607	01	09/13/2021	DL	DL	12/05/2021
6700	00	09/13/2021	DL	DL	12/05/2021