

# Master of Science in National Cyber Security Studies

The Master of Science in National Cyber Security Studies will prepare students for careers in the field of cyber security and intelligence analysis.

The program is relevant to established career personnel in defense analysis and related specialties, the military services, the civil service and the intelligence community. Additionally, the program is structured to provide motivated persons holding a Bachelor of Arts degree and/or Bachelor of Science degree from an accredited institution with the higher educational skills necessary for entry into the above mentioned career fields or to pursue doctoral studies.

The National Security Studies program was designated an Intelligence Community Center of Academic Excellence (IC CAE) in 2006 by the Office of the Director of National Intelligence (ODNI).

## Admission to the Program

In addition to the general requirements of the university, specific requirements for admission to classified graduate status are:

1. A baccalaureate degree from an accredited college or university;
2. Satisfy the National Security Studies graduate admissions committee that sufficient preparation and a satisfactory course of study has been pursued in preparation for graduate study.
3. A minimum cumulative undergraduate grade point average of at least 2.5 overall and at least 3.0 ("B") in the student's undergraduate major;
4. Completion of the graduate entrance writing requirement;
5. Competence in the following prerequisite courses or their equivalents:

|           |                                 |   |
|-----------|---------------------------------|---|
| MATH 1301 | Modeling with Functions         | 3 |
| PSCI 2030 | Government of the United States | 3 |

Competence in these areas may be demonstrated by:

- a. Formal completion of the course or its equivalent,  
OR
  - b. Credit by examination.
6. Submission to the National Security Studies Admissions Committee of a brief statement (one or two double-spaced typewritten pages) of the student's preparation for graduate study and professional aspirations following receipt of the master's degree;
  7. Submission of three letters of recommendation from individuals familiar with the student's academic or professional work and potential to complete the program successfully. Letters must come directly from the writer on National Security Studies forms.

Students who meet the requirements for admission to graduate study, but who do not meet the program requirements, may be admitted to graduate study in unclassified postbaccalaureate status or to the program in conditionally classified graduate standing. When the specified deficiencies are removed, student status is changed from conditionally classified to classified. (Unclassified postbaccalaureate students may enroll, when space is available, in selected graduate courses.) No more than 12 semester units of national security studies course work taken as an

unclassified or conditionally classified graduate student may be applied to the program as a classified graduate student.

## Advancement to Candidacy

To be advanced to candidacy, a student must have:

1. Achieved classified status;
2. Selected a graduate advisor to supervise the course of study;
3. Completed at least 9 semester units of national cyber security studies program course work at this university, and achieved a minimum grade point average of 3.0 ("B") in those courses;
4. Filed a graduate program approved by the student's advisor, the national security studies program director and the Dean of Graduate Studies.

## Requirements for Graduation

1. A minimum of 36 semester units of acceptable graduate-level work, with at least 30 semester units completed in residence at California State University, San Bernardino. A minimum of 30 semester units must be at the 5000-6000 level;
2. A grade point average of at least 3.0 ("B") in all national security studies program courses taken;
3. Choose Option A or B:
  - a. Completion of acceptable comprehensive final written and oral examinations;
  - b. Completion and defense of an original master's thesis;
4. The graduation writing requirement will be satisfied by achieving a minimum grade point average of 3.0 ("B") in the following three core courses. Each core course will allow the student to develop competence in three forms of writing traditional to the field:
  - a. Writing for Intelligence (PSCI 6210),
  - b. Analysis of Cyber Security (PSCI 6030),
  - c. Analysis of either theory or practice of strategy (PSCI 6000 or PSCI 6020);
5. Any additional general requirements not cited above and listed in Graduate Degree and Program Requirements (<http://bulletin.csusb.edu/graduate-degree-programs/graduate-degree-program-requirements/>).

Classified graduate students in the Master of Science program must complete their degree requirements within five years of admission to the program. Students in classified status who fail to register for at least one course in the program each semester will automatically be declassified. PSCI 6980-6986, Continuous Enrollment for Graduate Candidacy Standing, must be taken if another course is not taken during a given semester.

The Master of Science in National Cyber Security Studies is a thesis option course of study requiring either written and oral comprehensive examinations (to be taken in the last semester of program course work) or a thesis. Students with less than a 3.0 grade point average in the program will not be permitted to take the examinations or propose a thesis. All students are required to take the prerequisite, Core and Cyber Security field courses.

## Comprehensive Examination

Comprehensive examinations must be taken in the Core and the Cyber Security fields. The comprehensive examination committee for each candidate will consist of the Core advisor, one advisor from the Cyber

Security field and a third faculty member from either department. The examinations will be graded credit/no credit.

An oral examination by the student's committee follows successful completion of the written examination. The oral examination is open for public attendance, but not participation. Should the candidate fail one or more written or oral examination areas, the entire oral or written examination may be repeated one time after remedial course work or study is completed. The scope and deadline for completion of this remedial work will be determined by the student's examination committee at a post-examination conference.

Students must enroll in PSCI 6980 - the Political Science Comprehensive Examination..

**Thesis**

The criteria for determining who will be allowed to choose the thesis option will be determined by the proposed thesis committee. Students are still required to develop a course of study consistent with the Core and Cyber Security fields, as noted above. After completion of a minimum of 21 semester units, the student will request three faculty to form a preliminary committee, at least two of whom have instructed a course that the student has taken in the program in each of the Core and Cyber Security fields.

**Prerequisite courses (6 units)**

|                    |                                 |          |
|--------------------|---------------------------------|----------|
| MATH 1301          | Modeling with Functions         | 3        |
| PSCI 2030          | Government of the United States | 3        |
| <b>Total Units</b> |                                 | <b>6</b> |

**Degree Requirements (36-39 units)**

(Program Code: NCSS)

**Core courses (18)**

|           |  |   |
|-----------|--|---|
| PSCI 4840 | National Security Policy   | 3 |
| PSCI 5900 | Seminar in International Relations (Techniques of Intelligence Analysis) | 3 |
| PSCI 6000 | Theory and History of Strategy   | 3 |
| PSCI 6020 | International Security   | 3 |
| PSCI 6030 | Cyber Security and Cyber Warfare   | 3 |
| PSCI 6210 | Intelligence Assessments and Estimates                                   | 3 |

**Cyber Security Field (15)**

|          |   |   |
|----------|---|---|
| IST 5250 | Incident Handling and Cyber Investigation | 3 |
| IST 6470 | Database Management and Policies          | 3 |
| IST 6700 | Cybersecurity Policy and Risk Management  | 3 |
| IST 6720 | Cyber Defense and Vulnerability Analysis  | 3 |
| IST 6730 | Cybersecurity Theory and Practice         | 3 |

**Electives (3)**

Three units chosen from among courses not used for the core requirements listed below. 3

|           |  |
|-----------|--|
| CJUS 5550 | Intelligence & Crime Analysis 2          |
| CJUS 5554 | Terrorism                                |
| CJUS 5555 | Homeland Security                        |
| ECON 6303 | International Economic Issues            |
| GEOG 6100 | Military Geography for National Security |
| HIST 5560 | Foreign Relations of the United States   |

|           |  |
|-----------|--|
| MATH 6411 | Operations Analysis  |
| PSCI 5400 | Seminar in Comparative Politics (Middle East Politics)       |
| PSCI 5400 | Seminar in Comparative Politics (African Dictatorships)      |
| PSCI 5400 | Seminar in Comparative Politics (East Asian Politics)        |
| PSCI 5400 | Seminar in Comparative Politics (Latin American Politics)    |
| PSCI 5900 | Seminar in International Relations (Intelligence and Ethics) |
| PSCI 5900 | Seminar in International Relations (Terrorism in Africa)     |
| PSCI 5920 | Seminar in Government (Research Methods)                     |
| PSCI 6040 | Seminar in International Law                                 |
| PSCI 6050 | Topics in Strategy:  |
| PSCI 6060 | Analysis of International Terrorism                          |
| PSCI 6090 | International Relations Theory                               |
| PSCI 6110 | Regional Security of Eurasia                                 |
| PSCI 6120 | African Security   |
| PSCI 6130 | Middle East Security   |
| PSCI 6140 | Regional Security of East Asia                               |
| PSCI 6200 | Understanding Intelligence Failure                           |
| PSCI 6220 | Arms Control   |
| PSCI 6240 | Politics of National Security                                |
| PSCI 6250 | American Foreign Policy                                      |
| SSCI 6950 | Directed Graduate Studies                                    |

**Culminating Experience (0-3) 0-3**

**Total Units 36-39**

**Culminating Experience (0-3 units)**

Students must complete one of the following:

|              |  |     |
|--------------|--|-----|
| PSCI 6973    | Thesis (Thirty six units of course work and three units of thesis must be completed before the degree will be awarded) | 0-3 |
| or PSCI 6980 | Comprehensive Examination  |     |

**Total Units 0-3**