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Foreword

As part of the University of Colorado Boulder, the Technology, Cybersecurity and Policy (TCP) program accepts students from a broad range of fields and offers curriculum and coursework that creates bridges across disciplinary boundaries. The program views cybersecurity from an interdisciplinary perspective that includes aspects of technology and engineering, secure communications, leadership and policy, and applications to emerging technology areas. By collaborating with multiple Departments and Schools within the University of Colorado, TCP is striving to create a new higher education model that will be forward looking and interdisciplinary. Among the goals of TCP are: to accelerate both research and learning in areas of technology, cybersecurity, and policy; to provide relevant content with experiential learning; and to prepare students to be future leaders in these key areas.

Honor Code Pledge

The University of Colorado Boulder is dedicated to maintaining the highest standards of intellectual honesty. Commitment to these standards is the responsibility of every student, faculty and staff member. Here is a link to the Honor Code which was designed to uphold CU Boulder's standards of academic integrity and intellectual honesty. All students of the University of Colorado Boulder are subject to the Honor Code for academic matters.

“On my honor, as a University of Colorado Boulder student, I have neither given nor received unauthorized assistance.”

Colorado Creed

The Colorado Creed is a social responsibility code. It is a way of life and a reminder act with honor, integrity, and respect.

“As a member of the Boulder community and the University of Colorado Boulder, I agree to:

❖ Act with honor, integrity and accountability in my interactions with students, faculty, staff, and neighbors.
❖ Respect the rights of others and accept our differences.
❖ Contribute to the greater good of this community.
I will strive to uphold these principles in all aspects of my collegiate experience and beyond.”
## MS in TCP Curriculum Overview

<table>
<thead>
<tr>
<th>Course Requirements</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2 TCP Seminar Courses</strong> - 2 one-credit courses of expert presentations and professional networking</td>
<td>2</td>
</tr>
<tr>
<td><strong>3 Core Courses</strong> - 1 course in each TCP Core area:</td>
<td></td>
</tr>
<tr>
<td>● Core Course in <em>Cybersecurity and Emerging Technologies</em></td>
<td>3</td>
</tr>
<tr>
<td>● Core Course in <em>Technology, Thought Leadership and Policy</em></td>
<td>3</td>
</tr>
<tr>
<td>● Core Course in <em>Networking and Secure Communications</em></td>
<td>3</td>
</tr>
<tr>
<td><strong>5 Depth Area Courses</strong> - Elective courses within 1 depth area: Cybersecurity Engineering, Cybersecurity Leadership, or Secure Communications</td>
<td>15</td>
</tr>
<tr>
<td><strong>Interdisciplinary Design &amp; Project</strong> - Two semesters of substantial research projects solving problems for industry, defense, government, or education</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total Required Credits</strong></td>
<td>32</td>
</tr>
</tbody>
</table>
TCP Seminar

The TCP seminar is a one-credit course intended to introduce students to a variety of topics in technology, cybersecurity and policy. The weekly seminar brings in experts from around the world. This helps students gain a better understanding of the field and hear directly from experts in technology, cybersecurity, and policy. Students are required to enroll in the one-credit seminar for their first semester and again enroll for one credit in their second semester for a total of two credits.

TCP Core Courses

The TCP program has three Core areas: (i) Cybersecurity and Emerging Technologies, (ii) Technology, Thought Leadership and Policy, and (iii) Networking and Secure Communications. These three areas form the cornerstones of the TCP degree, and students are required to complete all three courses. The Core areas cover the skills needed to become a leader in Technology, Cybersecurity and Policy. This ensures graduates have the technical, policy, and strategy skills to work in industry and also ensures graduates have the skills needed to advance to senior leadership levels. The resulting three Core Courses cover 9 credit hours.

1. CYBR 5300 Cybersecurity and Emerging Technologies
   Introduces students to the key concepts in the design and use of cybersecurity techniques to protect individuals, corporations, and nations.

2. CYBR 5530 Technology, Thought Leadership and Policy*
   Introduces students to the key concepts in technology strategy and management and technology policy as well as its use in both industry and government.
   *Currently listed as CYBR 5830-002 Special Topics: Becoming a Technology Leader; course number subject to change after Fall 2020

3. CYBR 5010 Networking and Secure Communications
   Introduces students to the underlying technologies involved in networked systems and secure data communications between computers and other hosts.
TCP Depth Areas

TCP’s advanced courses allow students to gain deeper knowledge and focus in the area of their choosing. Students must select a depth area and complete the 15 credit (5 course) requirement associated with that depth area. As of May 2019, three depth areas are available and more depth areas are anticipated.

- **Cybersecurity Engineering**
  Students pursuing the Cybersecurity Engineering depth area must fulfill the following course requirements:
  - **Five** courses of Cybersecurity Engineering. Course list for [Cybersecurity Engineering](#) is available on the website.

- **Cybersecurity Leadership**
  Students pursuing the Cybersecurity Leadership depth area must fulfill the following course requirements:
  - **Five** courses of Cybersecurity Leadership. Course list for [Cybersecurity Leadership](#) is available on the website.

- **Secure Communications**
  Students pursuing the Secure Communications depth area must fulfill the following course requirements:
  - **Five** courses of Cybersecurity Engineering. Course list for [Secure Communications](#) is available on the website.
Interdisciplinary Design & Project

Students will work in teams to complete an advanced project that includes aspects of the three Core areas and Depth Area courses. Projects are often done in conjunction with industry partners. Topics are selected based on the combined interests of the students, the faculty, and external partners such as industry and government. This sequence focuses on designing for defense, government, industry, education, or small business. The first course introduces design and systems engineering and thinking, and the second course brings interdisciplinary teams across campus together to solve real-world problems for their intended partners and domains.

With faculty approval, students may elect to take 6 credits of Thesis in place of the Interdisciplinary Design & Project. To complete a thesis, the student must get approval from a faculty member who will serve as their thesis advisor and find two additional faculty members who are able to serve on their thesis committee. Students will work with a faculty advisor to complete a thesis on a topic of mutual interest that includes aspects of the three Core areas. The three-member committee must be approved by the TCP Program and by the Graduate School. The student works primarily with the thesis advisor and provides both a written document and arranges a presentation (thesis defense/thesis exam) before the thesis examining committee. Examination Report Forms must be filed with the TCP Program at least two weeks prior to the date of your defense (exam). Students must be registered during the semester in which they defend their thesis. Additional information, rules, dates and deadlines, and thesis submission requirements can be found on the Graduate School website. If a student is unable to find a faculty advisor, the student should pursue a research project, as outlined above.

For full-time students, the decision whether to pursue a Interdisciplinary Design & Project or Thesis must be made prior to the start of the second year. In the third Fall or Spring semester, a student will either be enrolled in the Interdisciplinary Design & Project course sequence or enrolled in the Thesis course sequence. Since both the Interdisciplinary Design & Project and Thesis options are two course sequences, switching from Interdisciplinary Design & Project to Thesis (or vice versa) is rare and will require an additional semester.
MS in TCP Timeline

All students must complete the degree requirements within four years from the date of commencing coursework. The option to petition for an additional fifth year is available. TCP offers Fall, Spring, and Summer courses online or on-campus on varying days and meeting times to allow flexibility for full- or part-time students.

**Full-time students typically complete the degree in two years.** In order to graduate in two years:

- Students are required to complete the Seminar in their first Fall and Spring semesters.
- Students are encouraged to complete the Core Courses in the first Fall and Spring semesters and must complete the Core Courses by the end of the third semester (excluding Summer sessions).
- Full-time students take either the Interdisciplinary Design & Project Sequence or the Thesis Course Sequence in their second Fall and second Spring semesters.

**Part-time students can pursue the degree at their own pace.** Students with graduation paths longer than 2 years must take the seminar in the first two semesters and are encouraged to complete the Core Courses before enrolling in Depth Area courses.
Academic Standards

Minimum Grades and GPA Requirements

For any TCP graduate degree, a course grade below B- is unsatisfactory and cannot be counted toward fulfilling any requirements for the degree.

A master’s degree student is required to maintain at least a B (3.00 GPA) average in all work attempted while enrolled in the Graduate School. Any student, who fails to maintain a 3.00 grade point average or to make adequate progress toward completing a degree, as assessed by the student’s academic/research advisor, will be subject to suspension or dismissal from the Graduate School upon consultation with the major department. The final decision on suspension or dismissal will be made by the Dean of the Graduate School. See the Graduate School Rules for additional information.

Incomplete (I) Grades

An incomplete (I) grade is given only when students, for documented reasons beyond their control, have been unable to complete course requirements in the semester enrolled. A substantial amount of work must have been satisfactorily completed before approval of such a grade is given. The final grade (earned by completing the course requirements or by retaking the course) does not result in deletion of the (I) from the transcript. A second entry is posted on the transcript to show the final grade for the course. At the end of one year, (I) grades for courses that are not completed or repeated are regarded as (F) and are shown as such on the student’s transcript. Courses with grades of (I) are not included in computation of grade point averages until a final letter grade has been awarded in that course.

Dropping a Course

TCP follows the university guidelines for dropping courses. See the university rules for how a dropped course will impact transcripts and finances.
Graduation Checklist

The following Graduate School forms must be submitted to the TCP Program for approval. IMPORTANT: Check the Graduate School deadlines prior to the start of the semester.

MS Interdisciplinary Design & Project Option

- **Apply to Graduate.** Students must apply through myCUinfo.colorado.edu to graduate. This notifies the Graduate School and your department that you intend to graduate. If you do not complete the requirements for graduation, you must log back in and re-apply to graduate for the new graduation date. **You must apply to graduate online whether or not you plan to attend the ceremony.**

- **Candidacy Application for Advanced Degree**
MS Thesis Option

- **Apply to Graduate.** Students must apply through [myCUinfo.colorado.edu](http://myCUinfo.colorado.edu) to graduate. This notifies the Graduate School and your department that you intend to graduate. If you do not complete the requirements for graduation, you must log back in and re-apply to graduate for the new graduation date. *You must apply to graduate online whether or not you plan to attend the ceremony.*
- **Candidacy Application for Advanced Degree**
- **Master’s Examination Report**
- **Final Grade Card**
- **Signature Page** – original page with original signatures
- **Final Copy of Thesis** must be submitted online

**Contact Persons**

Harrison Sloan  
Graduate Advisor  
TCP Program  
University of Colorado Boulder  
tcpgrad@colorado.edu

Dr. Dan Massey  
Program Director  
TCP Program  
University of Colorado Boulder  
Daniel.Massey@colorado.edu
# Appendix A – MS in TCP Degree Planning Form

## Name:

Student ID #:

### Required Course Areas

<table>
<thead>
<tr>
<th>Course Area</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Seminar Courses</td>
<td>2</td>
</tr>
<tr>
<td>3 Core Courses</td>
<td>9</td>
</tr>
<tr>
<td>5 Depth Area Courses</td>
<td>15</td>
</tr>
<tr>
<td>Master’s Project or Thesis</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total Required Credit Hours</strong></td>
<td><strong>32</strong></td>
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</table>

### Courses satisfying Seminar Requirement:

<table>
<thead>
<tr>
<th>Semester/Yr.</th>
<th>Course #</th>
<th>Course Title</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
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</table>

### Courses satisfying Core Requirements:

<table>
<thead>
<tr>
<th>Semester/Yr.</th>
<th>Course #</th>
<th>Course Title</th>
<th>Credit</th>
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<tbody>
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</table>

### Courses satisfying Depth Area Requirements:

<table>
<thead>
<tr>
<th>Semester/Yr.</th>
<th>Course #</th>
<th>Course Title</th>
<th>Credit</th>
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<tbody>
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</table>

### Courses satisfying MS Project or Thesis Requirement:

<table>
<thead>
<tr>
<th>Semester/Yr.</th>
<th>Course #</th>
<th>Course Title</th>
<th>Credit</th>
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</table>

### Notes:

Faculty/Academic Advisor Signature:  
Date: