Dear Applicant,

We are pleased to learn of your interest in Colorado State University’s Systems Engineering degree programs. We offer a Master of Engineering (M.E.), Master of Science (M.S.), and a Doctor of Philosophy (Ph.D.) degree. The M.E. includes a capstone project. There are two options for students pursuing the M.S. - a thesis or project. Additionally, there are two options for students pursuing the Ph.D. depending on prior master degrees. Please carefully read all of the materials in the packet and fully follow the instructions and deadlines when applying.

Students are admitted to the program twice per year. For the fall semester, the deadline to submit all materials is July 1. For the spring semester, the deadline is November 1. Upon receipt of all application materials, your application is reviewed by the admissions committee; this can take up to four weeks. Once a recommendation has been made by the program to the Graduate School, it can take three to four weeks before you receive official notification of the Graduate School’s admission decision.

Common mistakes to avoid in the application process:

1. Not reading all materials prior to beginning the application process. Failure to follow specified directions may lead to an incomplete and/or rejected application.
2. Sending transcripts to the Graduate School or Office of Admissions rather than directly the Systems Engineering program (see below sections for address to send transcripts).
5. Not checking with the Systems Engineering program to see that all materials are in prior to the deadline.
6. Not securing a faculty advisor prior to applying (for M.S. Plan A and Ph.D. programs)

We look forward to receiving your application materials and wish you well in your professional development.

Sincerely,
The Colorado State University Systems Engineering Program
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Systems Engineering Program Options

Systems Engineering offers three degrees with various options:

Master of Engineering (M.E.)
- The M.E. can include a capstone project. The topic of the capstone project is determined by the student and the faculty advisor.
- No independent study, research, internship, supervised college teaching, or practicum credits may be credited toward the degree.
- Requires 30 credits
  - Minimum of 24 credits must be earned at Colorado State University, 21 of which must be at the 500-level and earned after formal admission to the University.

Master of Science (M.S.)
- There are two options for students pursuing the M.S.:
  - M.S. Plan A (9 credit hours of thesis work required)
  - M.S. Plan B (3 credit hours of project work)
- Requires 30 hours
  - Minimum of 24 credits must be earned at Colorado State University, 21 of which must be at the 500-level and earned after formal admission to the University.

Doctor of Philosophy (Ph.D.)
- 72-credit program option:
  - Designed for students who do not already have a Master of Science degree and only hold a bachelor’s degree
  - Up to ten credits earned at an accredited college or university may be accepted for transfer if approved by the student’s advisory committee, the department, and the Graduate School.
  - A minimum of 62 credits must be earned at Colorado State University after admission to a doctoral program. At least 37 credits beyond the bachelor’s degree must be earned in courses numbered 500 or above.
- 42-credit program option:
  - Designed for students who already have an applicable master’s degree of at least 30 credits
  - The master’s degree can be in a variety of areas including engineering, mathematics, or science.
  - Students with a bachelor’s degree in engineering and a master’s degree in business are also eligible for this option.
  - Up to ten credits in courses earned after the date on which the master’s degree was awarded may be accepted in transfer if approved by the student’s advisory committee, the department, and the Graduate School.
  - A minimum of 32 credits must be earned at Colorado State University after admission to a doctoral program. At least 21 credits beyond the master’s degree must be earned in courses numbered 500 or above.
Minimum Application Qualifications

The minimum application requirements listed below demonstrate the types of competencies that are required for the Systems Engineering program. These competencies can be learned through coursework or career path if there is adequate professional and technical experience. Please note that meeting the minimum department standards does not ensure admission to the program.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>M.E.</th>
<th>M.S. - Plan A, thesis</th>
<th>M.S. - Plan B, project work</th>
<th>Ph.D.</th>
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<tbody>
<tr>
<td>Four-year Bachelor of Science from a regionally accredited institution in engineering, mathematics, or a science discipline with a GPA of at least 3.0</td>
<td>✔</td>
<td>✔</td>
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<tr>
<td>Three semesters of calculus: Calculus I, Calculus II, &amp; Calculus III</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
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<tr>
<td>Basic statistics course</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
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<tr>
<td>GRE test scores are required if all previous degrees were conferred by an institution outside of the U.S.</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Secure a faculty advisor prior to completing application. For information on how to secure a faculty advisor please go to the section, “Securing a Faculty Advisor.”</td>
<td>✔</td>
<td></td>
<td>✔</td>
<td>✔</td>
</tr>
</tbody>
</table>
Criteria for Admission

We look at each applicant in a holistic manner – what is the student’s educational and professional background? Given the full view of their background, we ask ourselves, do we feel the students have the competencies to succeed in the program.

The minimum qualifications are listed to get to a “competency level” not to check off the box that a course etc. has been taken. These competencies can be learned though coursework or career path if there is adequate professional and technical experience.

For potential admission into the program, the applicant should show that he/she has the competency level that is required to excel in the Systems Engineering program. For example, directly addressing any perceived shortcomings in the statement of purpose and resume could provide evidence of an acceptable level of analytical/technical competency if the transcripts do not reflect a direct correlation to an analytical skill set.

Applicants could enroll in introductory courses in Systems Engineering and “test the waters” to see if they have the skill set to succeed. If they excel in the introductory coursework, then they could use this as evidence of their capabilities for consideration if they choose to apply for formal admission. Successful completion of initial coursework does not guarantee admission, but would help during the evaluation of the application (see “Coursework Prior to Applying,” pg. 11).

M.S. Plan A and Ph.D. students: Securing a faculty advisor is paramount before an application can be reviewed. If you are unable to secure a faculty advisor, your application is considered incomplete, and is not reviewed. While some students are admissible, they do not always find faculty advisors who have the expertise in their areas of interest or who have the time to serve as advisors. Please see the section, “Securing a Faculty Advisor” (pg. 8) for additional information.

In a competitive admission situation, applicants are judged not only on the basic criteria, but also in comparison to other applicants. Thus, meeting the basic criteria does not guarantee admission.
Systems Engineering Detailed Application Checklist

Please use the following checklist to be certain you have included everything in your application. *This process is applicable for all Fall 2016 Applicants, but for Spring 2017 the Graduate School application procedure will change (all required materials will remain the same).* If you are planning to apply for Spring 2017 please stay in contact with the Systems Engineering program to ensure you keep up-to-date on how to submit all materials.

**STEP 1: SECURE A FACULTY ADVISOR**
If you are applying to the M.S. Plan A or Ph.D. option, you need to secure a faculty advisor prior to proceeding with your application to the graduate school and Systems Engineering program. Do not proceed to STEP 2 unless you have found a faculty advisor.

This step includes the preparation of a Research Interest Summary. *For detailed and necessary information on this process, please see the section on “Securing a Faculty Advisor” (page 8).*

If you are applying to the M.E. or M.S. Plan B option, please skip STEP 1 and proceed with STEP 2.

**STEP 2: TO BE SUBMITTED TO THE GRADUATE SCHOOL:**

Complete the Graduate School Application

http://graduateschool.colostate.edu/prospective-students/apply/

For any below choices, if you want the Online program, select the “Distance” option:

- For the M.E. program, select “Engineering ME/Systems Engr”
- For the M.S. program, select “Systems Engineering (College of Engineering) - MS”
- For the Ph.D. program, select “Systems Engineering (College of Engineering) - Ph.D.”

Submit non-refundable Graduate School Application fee (payable online)

**STEP 3: TO BE SENT (via EMAIL and/or MAIL) TO THE SYSTEMS ENGINEERING PROGRAM** (see end of this section for email and mailing address)

One official transcript from *every* post-secondary institution attended (transcripts from CSU are not required).

- If a university uses a certified third-party to send electronic transcripts (such as Docufide or Escrip-safe) you must send the confirmation email to us.
- If transcripts are not in English, ensure official copies include a certified translation into English. Only one set of transcripts per institution is required.

Current resumé

Three letters of recommendation from faculty, supervisors, etc. who can accurately speak to your skills. Letters may be mailed or emailed, but *must come directly from the recommender* unless there is sufficient evidence that the letters are official (i.e. scanned originals with signature).

Statement of purpose (2 pages MAXIMUM). This is meant to address the Systems Engineering Admissions Committee and why you would be a good fit for the program. If you are M.S. Plan A or Ph.D., this is different from the Research Interest Summary you will compile, but some of the same information may be used. Topics may include, but are not limited to:
• Your relevant professional/academic background and skills
• Why you are interested in Systems Engineering – provide specific areas of interest and application
• Why you are interested in CSU’s program and what you can contribute to CSU

GRE Scores: GRE test scores are required only if all previous degrees were conferred by an institution outside of the U.S. Submit official GRE General Test scores through the Educational Testing Service (select institution code: 4075, leave the department code blank). Scores are typically received by the University 4-6 weeks after your testing date.
• All three sections — verbal, quantitative, and analytical — must be submitted. Photocopies are not accepted.

TOFEL and/or IELTS scores: Students are exempted from the TOEFL or IELTS requirement if the primary official language of their country is English or if they have recently earned a degree from a U.S. university. It generally takes 3-6 weeks for ETS to send the scores to CSU, so allow plenty of time. Photocopies will not be accepted.

Test of English as a Foreign Language (TOEFL)
Submit official scores through the Educational Testing Service (select institution code: 4075, leave the department code blank). The minimum score is 80 on the internet-based test (550 on paper-based).

International English Language Testing System (IELTS)
IELTS official score printouts should be sent to the Admissions office: 1062 Campus Delivery, Fort Collins, CO 80523-1062 or email admissions@colostate.edu. The minimum score is 6.5.

Immigration Document Information located at http://isss.colostate.edu/i-20ds-2019/. Contact the International Programs Office for more information.

MISCELLANEOUS
Everything should be received by the Systems Engineering program by July 1 for the fall semester and November 1 for the spring semester.

<table>
<thead>
<tr>
<th>Email items to</th>
<th><a href="mailto:sys_engr_info@engr.colostate.edu">sys_engr_info@engr.colostate.edu</a></th>
</tr>
</thead>
</table>
| Mail items to           | Systems Engineering - Graduate Admissions  
                          | College of Engineering  
                          | Colorado State University  
                          | 1301 Campus Delivery  
                          | Fort Collins, CO 80523-1301 |

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Securing a Faculty Advisor

A faculty advisor must be secured before admission to the M.S. Plan A and Ph.D. program.

1. Start by reading the Systems Engineering faculty bios, which can be found here: http://www.online.colostate.edu/degrees/systems-engineering-phd/faculty.dot
   - Your faculty advisor can be a faculty member from any department on campus. Faculty listed at the above link have current association with the Systems Engineering program, but you may seek other advisors across different disciplines if they would match well with your research interests.

2. Prepare your Research Interest Summary (2 pages MAXIMUM). This is intended to give a brief overview of your research goals and interests so potential faculty advisors can quickly assess your fit with their areas of expertise. The better you can articulate what it is you hope to accomplish, the better your chances of securing a faculty advisor. Include the following sections in this summary:
   a. Specific areas of research interest
      - What “value-added” do you see in pursuing an MS/PhD for you, your company, industry, etc.?
      - What data set(s) would be critical for your thesis/dissertation?
      - Who would be the key contacts/contributors to a “needs analysis” (this may have already been established via other work in your organization).
      - Can include “key words” section
   b. How these areas of interest fit at CSU
      - Who at CSU is doing research in these areas right now?
      - How would your work fit into potential faculty advisors’ areas of expertise?
   c. Professional or educational experience relevant to the above interests
      - Highlights from your resumé
      - How do you anticipate your research will be funded? Do you have support from your employer, other resources, or are you depending on financial support from CSU to conduct your research?

3. Distribute your Research Interest Summary. You have two ways to do this:
   a. Send a generalized Research Interest Summary to the Systems Engineering program (sys_engr_info@engr.colostate.edu). Please note:
      - We collect these for a group review once per application period (generally 2-3 months before the application deadline), so this provides one way to get your name and information in front of faculty members.
      - There is no guarantee a faculty member will match with your research interests or agree to be your advisor.
   b. Reach out directly to faculty members by phone or email. Please note:
      - It may be a good idea to customize your Research Interest Summary for each individual faculty member to whom you reach out so you draw clear parallels between your interests and their research.
Some faculty members may not respond if you have not made a clear and convincing case as to why you would be a qualified advisee that fits well with that individual faculty member.

Some faculty are too busy to respond to individual student inquiries, and wait until the group review process each application period.

Some faculty members may be at capacity with advisees and unable to take on another one.

Some faculty, especially those not currently associated with Systems Engineering, may opt not to advise students outside of their department.

Please remember, finding a faculty advisor is often the longest and most difficult part of the application process. Our M.S. Plan A and Ph.D. programs are highly sought-after and we have limited capacity for new students each application period, so this can be a competitive process. Additionally, some applicant research interests fall outside of the expertise areas offered by CSU’s faculty and may not be a good fit for our program.

Students who are accepted into the M.E. or M.S. Plan B option may switch to the M.S. Plan A upon finding an academic advisor.
Delivery of Coursework

Course delivery options allow you to study when and where it works best for you, whether that is streaming the lecture from your computer while it’s happening live on campus or watching a recorded version at a time more convenient for you. You also have the opportunity to attend a selection of courses in person at the Fort Collins campus or our Denver South location, embedded within industry.

Courses that are delivered online use our learning management system called Canvas. The system allows you to watch recorded, campus-based lectures, engage in course content and communicate with peers online. Online courses are asynchronous, allowing you to study at the time that best fits your schedule.

In your courses you will:

- View recorded campus-based lectures online
- Download and review lecture notes
- Complete assigned and optional readings
- Communicate and exchange ideas with instructors and fellow students through chat rooms, threaded discussions, and email (online courses)
- Complete individual projects and collaborate on group projects
- Study for and complete exams
- Write course-related papers

Although the format of this degree offers flexibility, it still requires the same amount of work and time as an on-campus graduate program. Depending on your learning and studying style, expect to spend nine to twelve hours per week on a three-credit course. This will vary depending on your learning and studying style.

There is no on-campus requirement for any of the Systems Engineering programs. However, for the M.S. (Plan A) and Ph.D. options, faculty may want to meet with students via Skype or in person if schedules allow. The logistics of this should be discussed with your faculty advisor. For Ph.D. students, the preliminary examination involves a presentation and an oral examination conducted over Skype or similar technology. If schedules allow, the examination may be conducted face-to-face.

The M.E. and M.S. can be completed in as little as three years; however, most students take closer to four years to complete either of the master degree programs.

The Ph.D. is generally completed in five years, but depends on the intensity of study and previous coursework.
Coursework Prior to Applying

If you are interested, you can take one or more classes prior to formally applying to any Systems Engineering degree to ensure that the program is a good fit for you and to show that you are capable of doing well in graduate-level work. Taking a course does not guarantee your admission to the degree program, but it is one additional factor that the admission committee will consider regarding your application.

Students are eligible to transfer up to 9 credits of coursework prior to formal admissions for a Master’s program and up to 10 credits for a Ph.D. Students must have earned a B or higher in courses for them to apply to the degree.

All coursework you are transferring from outside of the Systems Engineering program is evaluated upon acceptance into the program. Per Graduate School policy, grades earned in courses prior to admission do not apply to your degree GPA, which must be at least a 3.0 to graduate.