Dear Applicant,

We are pleased to learn of your interest in Colorado State University’s Systems Engineering degree programs. We offer a Certificate in S.E. Practice, 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 pursing 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. Not leaving enough time to have all required materials at CSU before the deadline arrives.
3. Not checking written materials for errors.
5. Not checking your application status 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 one certificate and three degrees with various options:

**Graduate Certificate in Systems Engineering Practice**
- Requires 12 credits of Systems Engineering core courses, all of which must be earned at Colorado State University. There are no course waivers or substitutions for certificates.

**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 six credits earned at an accredited college or university may be accepted for transfer if approved by the student’s advisory committee, the program, and the Graduate School.
  - A minimum of 66 credits must be earned at CSU and a minimum of 62 credits must be earned at CSU after admission to a doctoral program. No more than 6 credits numbered at the 400 level can apply to this degree.
- 42-credit program option:
  - Designed for students who already have an applicable master's degree. Up to 30 credits of the master’s degree may count toward the Ph.D.
  - 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 six 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 program, and the Graduate School.
  - A minimum of 36 credits must be earned at CSU and a minimum of 32 credits must be earned at CSU after admission to a doctoral program. These 42 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 though coursework or career path if there is adequate professional and technical experience. Please note that meeting the minimum program standards does not ensure admission to the program.

✓ = required

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Certificate in S.E. Practice</th>
<th>M.E.</th>
<th>M.S. - Plan A, thesis</th>
<th>M.S. - Plan B, project</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>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Three semesters of calculus: Calculus I, Calculus II, &amp; Calculus III</td>
<td>recommended</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Basic statistics course</td>
<td>recommended</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>GRE test scores are required if applicant does not have a U.S. degree</td>
<td>✓</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>
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<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 through 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 our Program’s 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.

*An asterisk denotes materials required only for a degree program. If you are applying to the Certificate program, do not include these.

**Deadlines:** Your application should be submitted and *everything should be received by*

- **July 1** for fall semester admission or
- **November 1** for spring semester admission

**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 permanent faculty advisor before your application will be considered complete for review. Confirmation from a faculty member that they will advise you is due by the application deadline for each semester.

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

☐ Send confirmation that a faculty advisor has agreed to advise you to sys_engr_info@engr.colostate.edu and *CC your advisor*

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

**STEP 2: BEGIN YOUR ONLINE APPLICATION**

You will create an account and can re-visit the application at any time to continue where you last left off: [http://gradadmissions.colostate.edu/apply](http://gradadmissions.colostate.edu/apply)

- When choosing a program, if you want to do it Online, select the “Distance” option

**STEP 3: SUBMIT ALL REQUIRED APPLICATION MATERIALS**

*You will submit the following through the online application:*

☐ Current resumé or CV

☐ *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

*You will need to have the following sent separately:*

☐ *Three letters of recommendation* from faculty, supervisors, etc. who can speak to your skills accurately and in detail.

You will add names of recommenders through the online application and they will be emailed with instructions to upload the letter. Letters directly from applicants will not be accepted. *It is your responsibility to connect with your recommenders and ensure the recommendations are submitted by the appropriate deadline.*
One official transcript from every post-secondary institution attended (transcripts from CSU are not required).
- To submit official transcripts, contact your previous institutions to request they submit official transcripts to Colorado State University (use institution code 4075). If a mailing address is required, use the one shown near the bottom of this page.

GRE Scores or Waiver Request: GRE test scores are required for students who do not have a U.S. degree.
- If you qualify for a GRE waiver (have earned a degree from a U.S. institution) please email sys_engr_info@engr.colostate.edu after your transcript for that degree has been received.
- If you do not qualify for a waiver, 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.

TOEFL 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.

<table>
<thead>
<tr>
<th>Physical mailing address for any additional materials</th>
<th>Graduate Admissions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Colorado State University – Office of Admissions</td>
</tr>
<tr>
<td></td>
<td>1062 Campus Delivery</td>
</tr>
<tr>
<td></td>
<td>Fort Collins, CO 80523-1062</td>
</tr>
</tbody>
</table>

STEP 4: SUBMIT YOUR ONLINE APPLICATION

Pay the non-refundable Graduate School Application fee (only payable after application is submitted)

STEP 5: CHECK THE STATUS OF YOUR APPLICATION TO ENSURE YOU MEET YOUR DEADLINE
Please visit http://gradadmissions.colostate.edu/apply/status at any time to check that your application checklist is complete. The Systems Engineering program will not provide updates on materials you are still missing.

You are responsible for ensuring all materials are received by the deadline.

For Ph.D. or M.S. Plan A: If your application status shows a complete application, but you have not sent confirmation of a faculty advisor, your application will still be considered incomplete.
Securing a Faculty Advisor

A permanent faculty advisor must be secured before an application to the M.S. Plan A or Ph.D. program is considered complete for review. Temporary advisors do not fulfill this requirement.

1. Start by reading the Systems Engineering faculty bios, which can be found here: [http://www.engr.colostate.edu/se/people/associated-faculty/](http://www.engr.colostate.edu/se/people/associated-faculty/). 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 (can choose one or both):
   a. Send a generalized Research Interest Summary to the Systems Engineering program ([sys_engr_info@engr.colostate.edu](mailto: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.

4. **Let Systems Engineering Admissions know who your advisor is.** If a faculty member agrees to advise you, forward proof of agreement on to sys_engr_info@engr.colotate.edu OR send an email to the above email address and **CC your advisor** confirming who has agreed to advise you. Until this last step is done (must be received by application due date for the semester), your application will be considered incomplete.

Please remember, finding a faculty advisor is often the longest and most difficult part of the application process, so we encourage you to begin this process well in advance of the application deadline. This is a competitive 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. 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 a faculty advisor.
Delivery of Coursework

For students in our Online programs, 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 Online 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 in applying to any degree program, you can take one or more classes prior to formally applying 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.

Student interested in earning the Certificate must be admitted into the certificate program by the semester in which they finish their certificate coursework.

Students are eligible to use 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.

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.