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# What are the Types of Engineering?

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# Aerospace Engineering

- “Aerospace” is the combination of aeronautics and space; it refers to flight within and outside of Earth’s atmosphere.
- Design, build, and test machines.
- Mainly focused on flying machines
- Develop aircraft (planes & jets) and spacecraft (satellites, rockets, & space shuttles), and even undersea vehicles like submarines.



Offered at UCF, UF, Embry-Riddle

# Mechanical Engineering

- Focuses on the transfer of energy or mass in a dynamic system.
- Generally designs any system that contains moving parts or motion
- Power generation and transfer (power plants, engines, & transmissions).
- Transportation (cars, airplanes, submarines, & roller coasters).
- Machine Design (embedded systems, controls, part design)

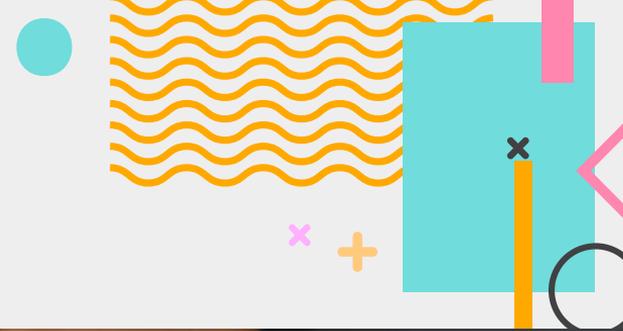
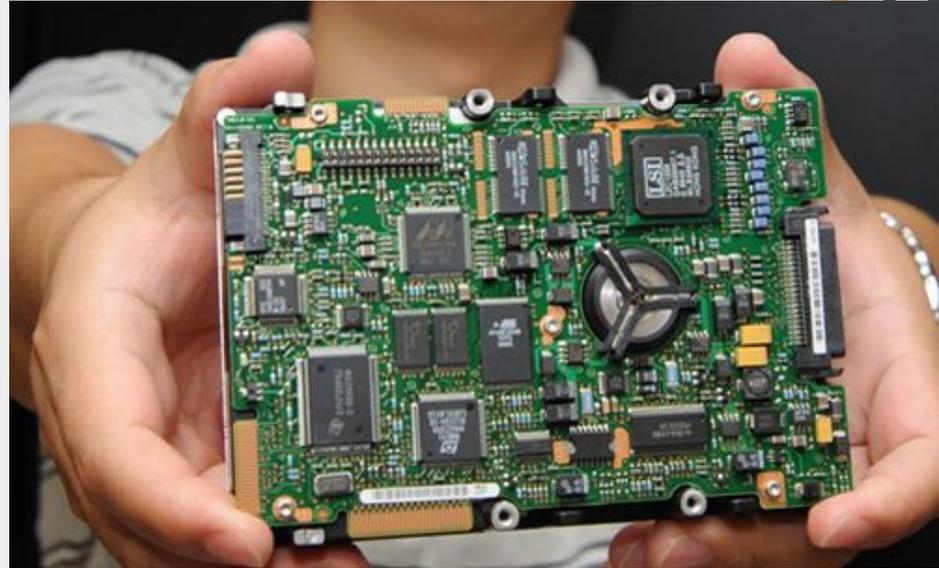
**Offered at UF, USF, UCF**



# Computer Engineering

- Uses all aspects of computer systems; these engineers must understand both software and hardware systems.
- Often work in group settings that research and develop new computer technology.
- The products of this industry are integrated into numerous parts of our lives from the development of cell phones or mobile ordering from Chick-Fil-A.

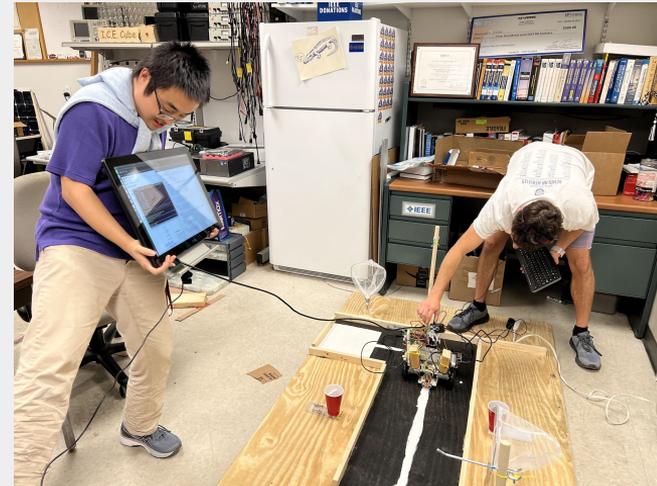
Offered at UF, USF, UCF



# Electrical Engineering

- Involves gathering, storing, and transportation of information along with the distribution and storing of energy.
- These engineers have a crucial role in helping our technology-dependent society operate.
- Electrical engineers develop and affect the production of electrical or electronic systems.
- It features many sub-disciplines like communication, control, and power systems.

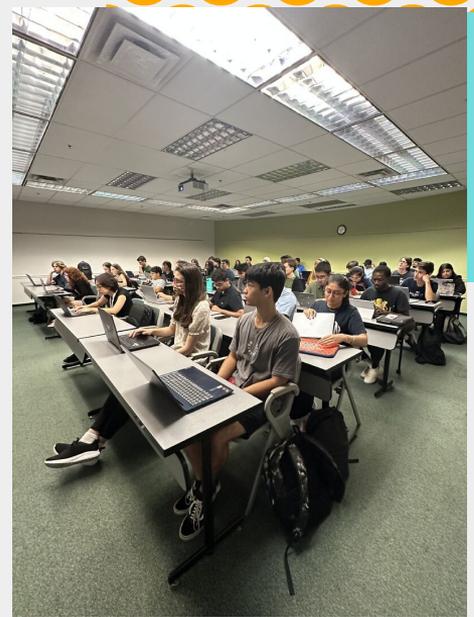
**Offered at UF, USF, UCF**



# Software Engineering

- The maintenance, operation, and development of software.
- Applies principles of computer science, mathematics, management, and engineering knowledge to make systems.
- Work in numerous sectors from designing software for medical devices, making programs to generate animation in films, or even create and market their own software.
- Concentrated on providing a solution to a problem, then after analysis devising the answer with code.
- Career opportunities are bountiful and very promising.

**Offered at UF, USF, UCF**



# Engineering Physics



- Blend of “engineering” and “physics” but includes math and space science.
- Concentrated largely on research and development and has a focus on experimentation and hands-on learning.
- The field is closely related to aerospace engineering.

**Offered at UF, USF, UCF**

# Civil Engineering

- Maintain and design systems in water management, transportation, construction, pollution mitigation.
- Employment opportunities are great with positions in the government, military, or private sector and many choose to start their own companies.

Offered at UF, USF, UCF, Embry-Riddle



# Chemical Engineering

It focuses on designing and operating processes to transform raw materials into valuable products safely, efficiently, and sustainably.

Expanding chemical reactions from the lab to large-scale industrial production.

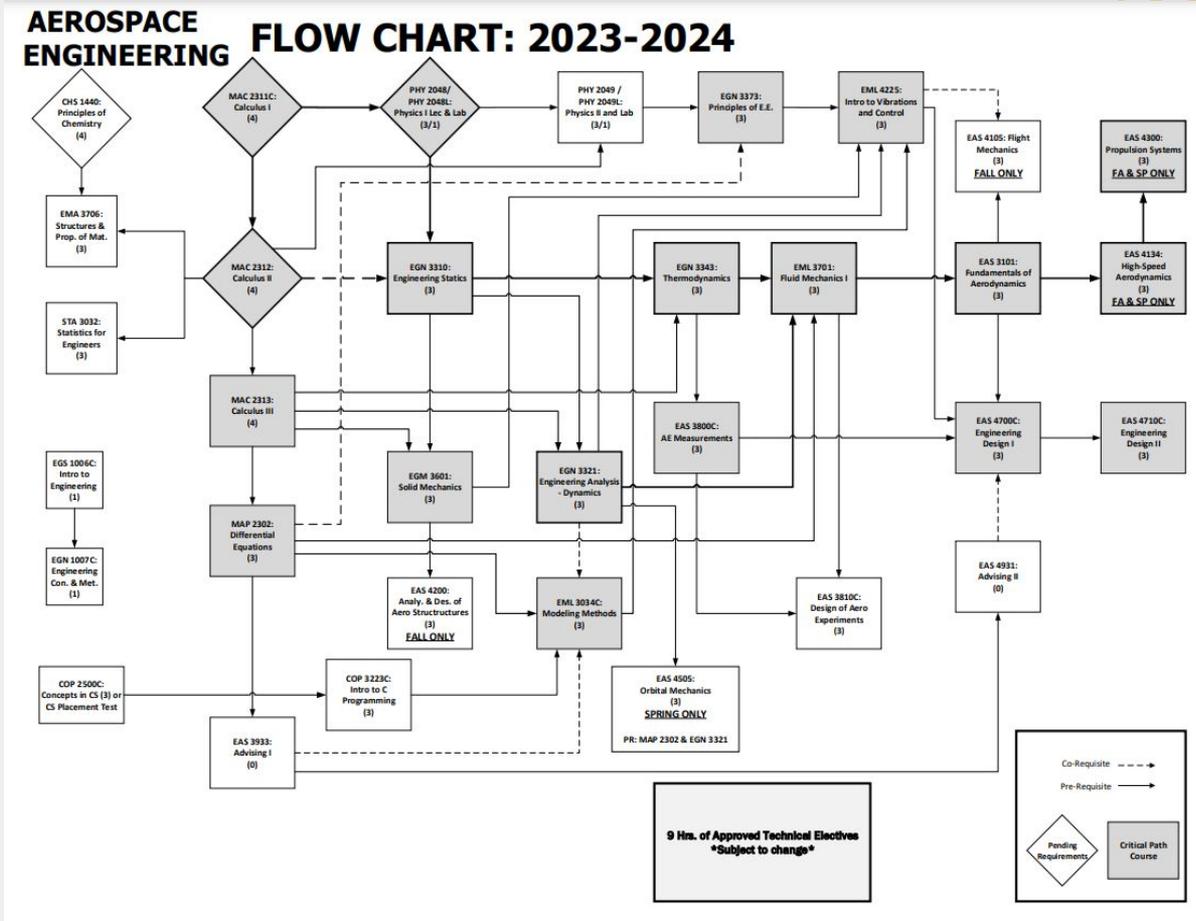
Ensuring processes are safe for workers and have minimal environmental impact.

Improving processes to minimize energy use and reduce waste.

Offered at UF, USF, UCF, FSU



# EXAMPLE OF ENGINEERING FLOWCHART



# How to Apply to College

<https://www.commonapp.org/>

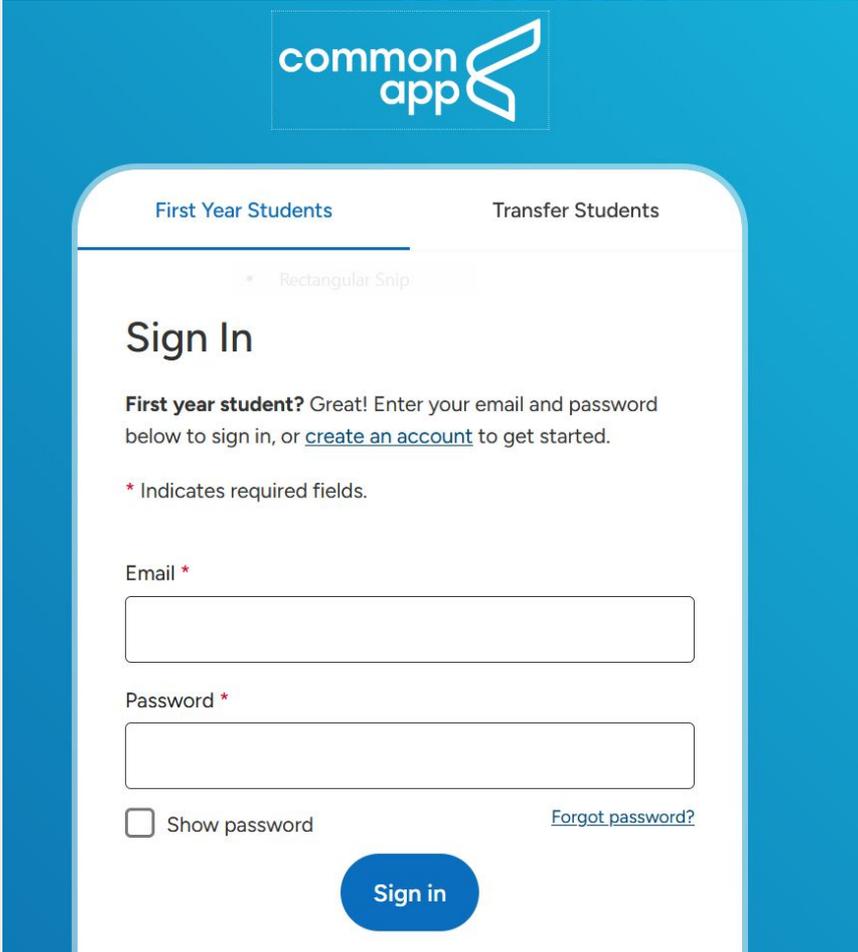
- **Apply to Multiple Colleges/Universities:** Use one application for several schools at once!
- **Organized Application Process:** Keep everything related to your college applications neatly organized.
- **Widely Accepted:** Most major schools accept the **Common Application!**
- **Maximize Scholarship Opportunities:** More applications mean more chances for scholarships!



# Create an Account at CommonApp

**Create Your CommonApp Account:** To apply as a first-year student, start by creating an account on the Common App website.

**Use a Reliable Email Address:** Make sure to use an email address you will always have access to for important updates and communications (Not your school email).



The image shows a screenshot of the CommonApp website's sign-in page. At the top, the CommonApp logo is displayed in a blue box. Below the logo, there are two tabs: "First Year Students" (which is selected) and "Transfer Students". The page content is titled "Sign In" and includes a message for first-year students: "First year student? Great! Enter your email and password below to sign in, or [create an account](#) to get started." A note states "\* Indicates required fields." There are two input fields: "Email \*" and "Password \*". Below the password field, there is a checkbox for "Show password" and a link for "Forgot password?". A blue "Sign in" button is located at the bottom right of the form area.

common app

First Year Students      Transfer Students

\* Rectangular Snip

## Sign In

**First year student?** Great! Enter your email and password below to sign in, or [create an account](#) to get started.

\* Indicates required fields.

Email \*

Password \*

Show password      [Forgot password?](#)

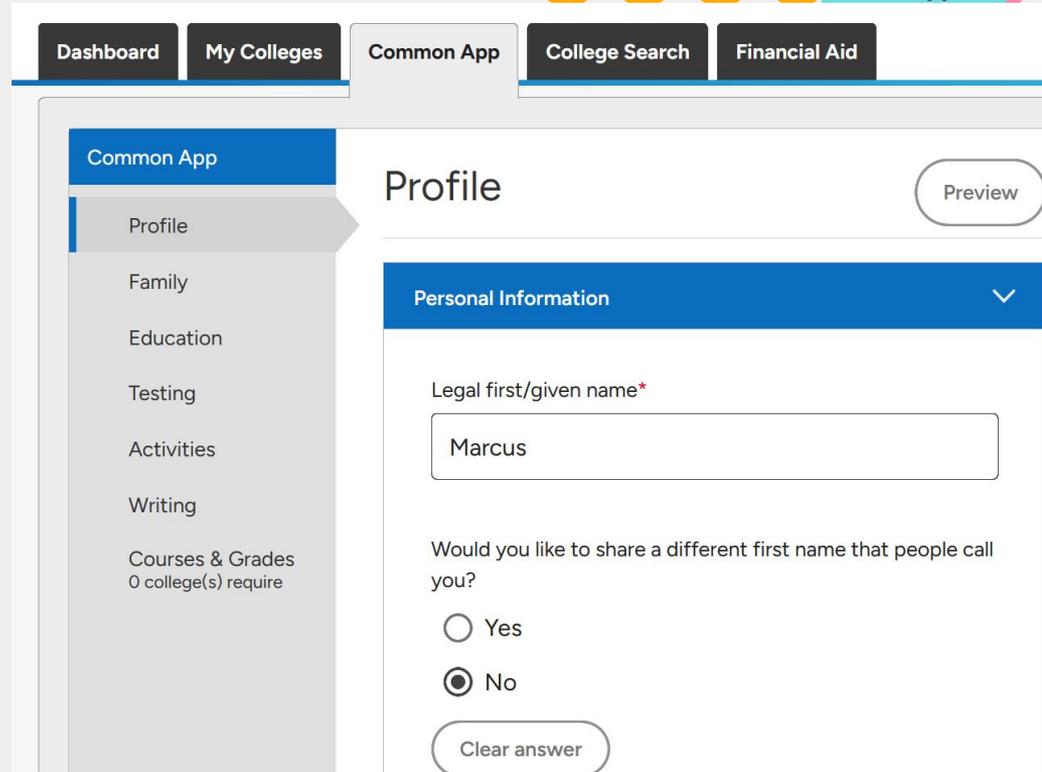
Sign in

# Fill Out Your CommonApp Profile

**Estimated Time Commitment:** Expect to spend about **3-5 hours total** on your application (excluding essay writing).

**Provide Comprehensive Information:** You'll be able to include details about your education, test scores (SAT, ACT, etc...), extracurricular activities, work experience, volunteering, and writing samples.

**Start Early:** Aim to finish your application as early as possible to avoid last-minute stress and ensure you have time to review everything thoroughly!



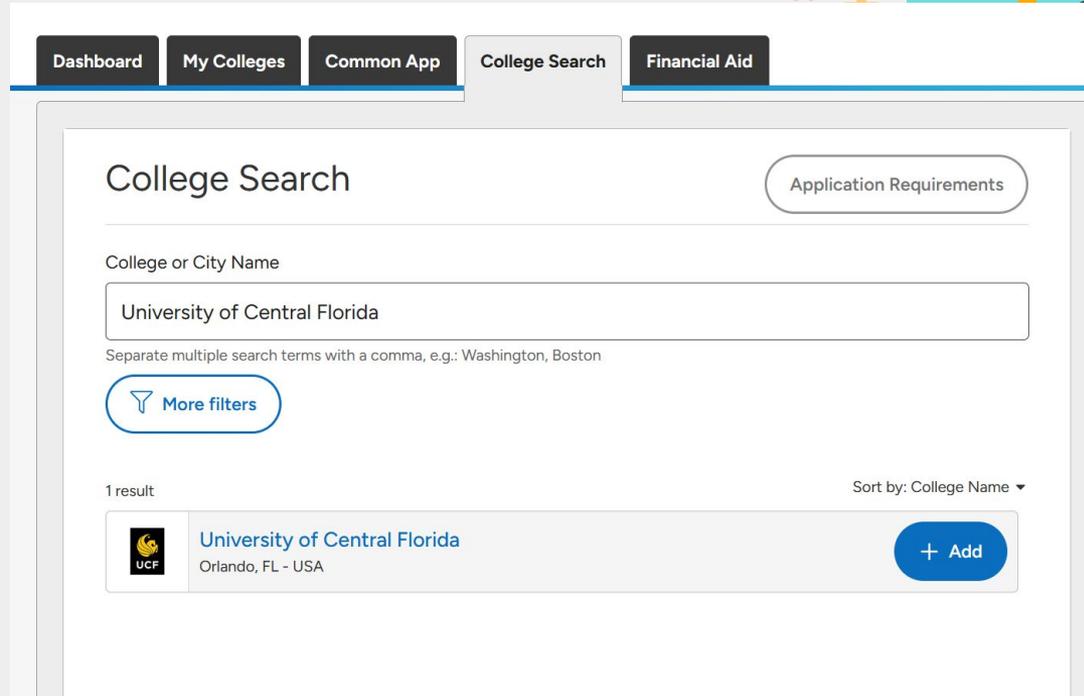
The screenshot shows the Common App interface. At the top, there are navigation tabs: Dashboard, My Colleges, Common App (selected), College Search, and Financial Aid. Below the tabs is a sidebar menu with options: Common App, Profile (selected), Family, Education, Testing, Activities, Writing, and Courses & Grades (0 college(s) require). The main content area is titled 'Profile' and has a 'Preview' button. Under the 'Personal Information' section, there is a text input field for 'Legal first/given name\*' containing the name 'Marcus'. Below this is a question: 'Would you like to share a different first name that people call you?' with radio button options for 'Yes' and 'No' (selected). A 'Clear answer' button is located at the bottom of the form.

# Add Colleges and Universities to Your Application List

**Use the “College Search” Tab:** Use this feature to discover schools that match your interests and add them to your list

**Add Your Top Choices:** Include as many colleges and universities as you think you might want to attend.

**Consider These Options:** Many schools, including **UCF**, **USF**, **UF**, **UNF**, **Santa Fe College**, and **Valencia College** are available on the Common Application!



The screenshot shows a navigation bar with five tabs: Dashboard, My Colleges, Common App, College Search (highlighted), and Financial Aid. Below the navigation bar is the 'College Search' section. It features a search input field containing 'University of Central Florida' and a 'More filters' button. Below the search field, it indicates '1 result' and shows a card for the 'University of Central Florida' in Orlando, FL - USA, with a '+ Add' button.

Dashboard My Colleges Common App **College Search** Financial Aid

## College Search

Application Requirements

College or City Name

Separate multiple search terms with a comma, e.g.: Washington, Boston

[More filters](#)

1 result Sort by: College Name

	<b>University of Central Florida</b> Orlando, FL - USA	<a href="#">+ Add</a>
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# Answer Specific Questions for the College/University

**Complete the “My Colleges” Section:** Under this tab, answer questions specific to each school you’re applying to.

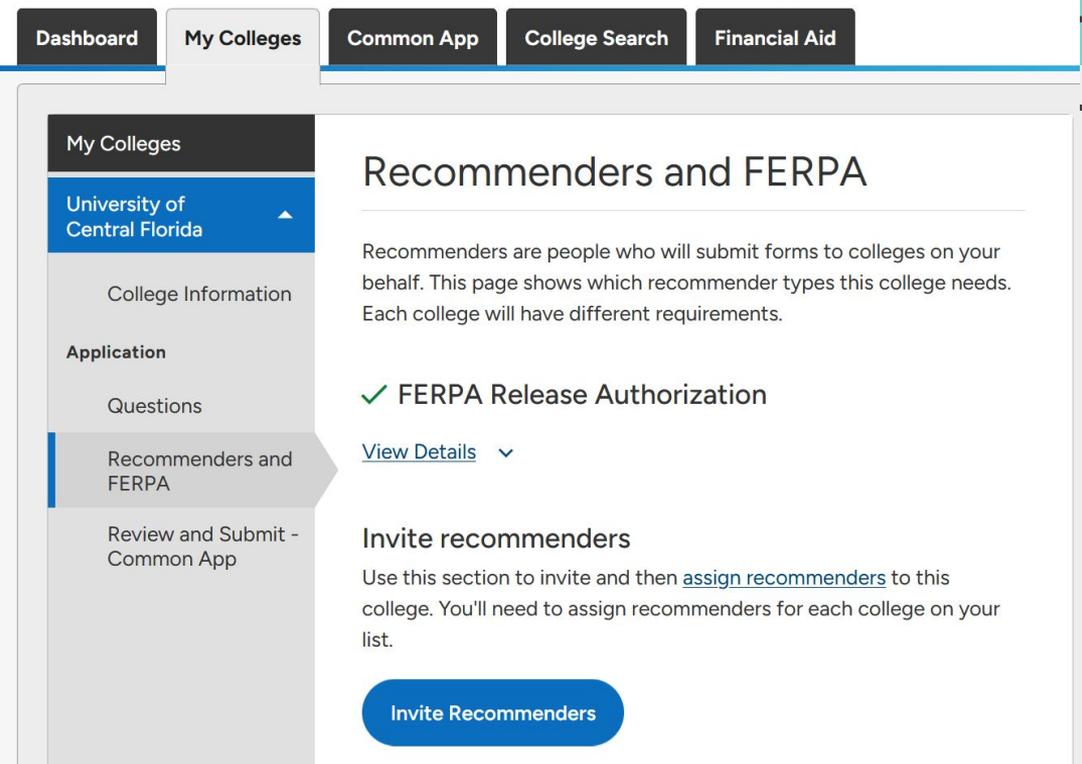
**Keep It Concise:** This section typically takes about **10-20 minutes per school**, but make sure to give extra time for favorite schools.

The screenshot shows a web application interface for college applications. At the top, there are navigation tabs: Dashboard, My Colleges, Common App, College Search, and Financial Aid. The 'My Colleges' tab is selected, and a dropdown menu shows 'University of Central Florida'. Below this, there is a sidebar menu with categories: College Information, Application, Questions (highlighted), Recommendations and FERPA, and Review and Submit - Common App. The main content area is titled 'Questions' and has a 'Preview' button. A list of question categories is shown: General (with a green checkmark and an up arrow), Academics (with an up arrow), Activities (with an up arrow), and Contacts (with a down arrow). Below the 'Contacts' category, there is a question: 'Have you previously applied to UCF?\*' with two radio button options: 'Yes' and 'No'. A 'Clear answer' button is located at the bottom of the question area.

# Add Recommenders and Submit Your Application

**Add Recommenders:** Depending on the school's requirements, you can invite guidance counselors, teachers, advisors, and others to provide letters of recommendation and references.

**Plan Ahead:** Complete your application early to give your recommenders ample time to write references and recommendation letters.



The screenshot shows a web application interface with a top navigation bar containing 'Dashboard', 'My Colleges', 'Common App', 'College Search', and 'Financial Aid'. The 'My Colleges' section is active, showing a list of colleges with 'University of Central Florida' selected. The main content area is titled 'Recommenders and FERPA' and includes a description of recommenders, a 'FERPA Release Authorization' status (checked), a 'View Details' link, and an 'Invite recommenders' section with an 'Invite Recommenders' button.

Dashboard My Colleges Common App College Search Financial Aid

My Colleges

University of Central Florida

College Information

Application

Questions

Recommenders and FERPA

Review and Submit - Common App

## Recommenders and FERPA

Recommenders are people who will submit forms to colleges on your behalf. This page shows which recommender types this college needs. Each college will have different requirements.

✓ FERPA Release Authorization

[View Details](#) ▾

### Invite recommenders

Use this section to invite and then [assign recommenders](#) to this college. You'll need to assign recommenders for each college on your list.

[Invite Recommenders](#)

# Thanks!

Do you have any questions?  
Reach out to us via email!

- [huerta3@usf.edu](mailto:huerta3@usf.edu)
  - [ibw@usf.edu](mailto:ibw@usf.edu)
- [ma430215@ucf.edu](mailto:ma430215@ucf.edu)

