STEM stands for Science, Technology, Engineering, and Math. A Pre-STEM concentration at Arrupe College is designed to build a foundation for students interested in pursuing a bachelor’s degree in fields such as Environmental Science, Public Health, Computer Science, Mathematics, Life and Physical Sciences, and many related fields.

In the Pre-STEM concentration, you will:
- Start the Calculus sequence, which sets you up for many different pathways in higher education or careers.
- Understand, analyze, and evaluate numerical data and use it to draw or evaluate conclusions.
- Analyze, synthesize, and evaluate diverse information, ideas, and perspectives in a contextually appropriate manner.

To graduate with an A.A. degree in Liberal Arts with a Pre-STEM concentration, you will need to:
- Earn at least 62 credit hours.
- Complete the Gen Ed Core.
  - Most bachelor's degrees in STEM require at least one semester of calculus, so you should take ACMAT 161 Calculus 1 as your Gen Ed Core math requirement. In some situations, ACSTA 101 Statistics is an acceptable substitute.
- Complete the Arrupe Mission Core.
- Complete these concentration requirements:
  - Take or test out of ACMAT 117 Pre-Calculus 1.
  - Take or test out of ACMAT 118 Pre-Calculus 2.
  - Take or test out of ACMAT 161 Calculus 1. (This course counts as your Gen Ed Core Math requirement; see above.)

Recommended electives:
In order to earn the 62 credit hours that are required for an A.A. degree, you will probably need to take two or three elective courses in addition to your required courses. Depending on your interests, these electives might be a good fit for you:
- ACBIO 100 Introductory Biology
- ACCHM 100 Introductory Chemistry
- Additional math and/or statistics courses beyond your Core requirements

Given the many different fields of study under the umbrella title of STEM, it’s best to talk to your academic advisor early in your time at Arrupe to plan your academic path.

What can I do with a Pre-STEM concentration?
As mentioned above, the Pre-STEM concentration provides a foundation for many different college majors. Keep reading to see some of the majors that you can pursue if you stay at Loyola University Chicago to earn a bachelor’s degree. Consult with the College Placement Director if you are interested in these majors at another college or university, because the major requirements at other universities may be different.
<table>
<thead>
<tr>
<th>How long will it take to earn a bachelor’s degree in this major at Loyola?</th>
<th>Major offered at Loyola University Chicago</th>
<th>Ways to prepare for this major while you are at Arrupe College</th>
</tr>
</thead>
<tbody>
<tr>
<td>It will probably take about 2 years to earn a bachelor’s degree after you earn your A.A. from Arrupe.</td>
<td>Computer Science B.S.</td>
<td>▪ Take ACMAT 162</td>
</tr>
</tbody>
</table>
|  | Information Technology B.S. | ▪ Take ACSTA 101 (can take the place of ACMAT 161)  
▪ Consider cross-college enrollment: COMP 125 or 150, COMP 170 |
|  | Cybersecurity B.S.  
Software Engineering B.S. | ▪ Consider cross-college enrollment: COMP 125 or 150, COMP 170 |
|  | Environmental Studies B.A. (compatible with any Arrupe degree) | ▪ Take ACSTA 101 or ACMAT 161, ACECO 201  
▪ Consider cross-college enrollment at School of Environmental Sustainability (SES) |
|  | Environmental Policy B.A (compatible with any Arrupe degree) | ▪ Take ACSTA 101 or ACMAT 161, ACECO 201  
▪ Consider cross-college enrollment at SES |
|  | Environmental Science B.S. | ▪ Take ACSTA 101 or ACMAT 161, ACECO 201, ACBIO 100, ACCHM 100  
▪ Consider cross-college enrollment at SES |
|  | Public Health B.S. | ▪ Take ACMAT 162, ACPSY 201, ACBIO 100  
▪ Consider cross-college enrollment at Parkinson School of Health Sciences & Public Health: PUBH 300 |
|  | Health Care Administration B.S. | ▪ Take ACECO 201, ACACT 201, ACMAT 117, ACPSY 201, ACSTA 101 |
| It will probably take 2-3 years to earn a bachelor’s degree after you earn your A.A. from Arrupe. | Biology B.S. | ▪ Take ACMAT 162, ACBIO 100, ACCHM 100  
▪ Consider 2 terms of cross-college enrollment to complete Gen Bio sequence (BIOL 101/111 & 102/112) |
|  | Bioinformatics B.S. | ▪ Take ACMAT 162, ACBIO 100, ACCHM 100  
▪ Consider 2 terms of cross-college enrollment to complete Gen Bio sequence (BIOL 101/111 & 102/112), COMP 125 or 150, COMP 170 |
|  | Exercise Science B.S. | ▪ Take ACPSY 201, ACPSY 273, ACSTA 101, ACCHM 100, ACBIO 100  
▪ Consider 2 terms of cross-college enrollment to complete Gen Bio sequence (BIOL 101/111 & 102/112) or Gen Chem sequence (CHEM 101/111 & 102/112) |
|  | Mathematics B.S.  
Applied Mathematics B.S.  
Statistics B.S.  
Data Science B.S.  
Neuroscience B.S. | ▪ Take ACMAT 162  
▪ Consider cross-college enrollment: 200-level MATH or STAT, COMP 125 or 150, COMP 170  
▪ Take ACPSY 201, ACMAT 162  
▪ Consider 2 terms of cross-college enrollment to complete Gen Bio sequence (BIOL 101/111 & 102/112), BIOL 202 |
### How long will it take to earn a bachelor's degree in this major at Loyola?

<table>
<thead>
<tr>
<th>Major offered at Loyola University Chicago</th>
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</tr>
</thead>
</table>
| Biochemistry B.S.                        | - Take ACMAT 162, ACCHM 100, ACBIO 100  
- Consider 2 terms of cross-college enrollment to complete Gen Bio sequence (BIOL 101/111 & 102/112) or Gen Chem sequence (CHEM 101/111 & 102/112) |
| Physics B.S.                             | - Take ACMAT 162  
- Consider cross-college enrollment: COMP 125 or 150, COMP 170, PHYS 125/125L |
| Biophysics B.S.                          | - Take ACMAT 162, ACBIO 100, ACCHM 100  
- Consider cross-college enrollment: COMP 125 or 150, COMP 170, PHYS 125/125L |
| Chemistry B.S.                           | - Take ACMAT 162, ACCHM 100  
- Consider 2 terms of cross-college enrollment to complete Gen Chem sequence (CHEM 101/111 & 102/112) |
| Engineering B.S.                         | - Take ACMAT 162, ACCHM 100, ACBIO 100  
- Consider cross-college enrollment: BIOL 101/111, COMP 125 or 150, COMP 170 |

**It will probably take 3 years to earn a bachelor’s degree after you earn your A.A. from Arrupe.**

**It will probably take 4 years to earn a bachelor’s degree after you earn your A.A. from Arrupe.**

### How can I learn more?

The pre-STEM concentration can lead to so many different college majors that it can be hard to decide what direction to take after you transfer to a four-year institution. Here are some ways to start exploring which college majors might be a good fit for you.

- **Browse information about college majors:** Every college department has a website. Pick some majors that sound interesting, then visit their department websites. You can look at Loyola departments, or departments at other colleges and universities.

- **Explore your interests:** Look for events sponsored by colleges or departments that interest you. You can also look for student organizations focused on your academic interests ([https://luc.campuslabs.com/engage/](https://luc.campuslabs.com/engage/)).

- **Explore information about careers:** Visit Loyola’s Career Services page ([https://www.luc.edu/career/](https://www.luc.edu/career/)). They offer a resource called “What Can I Do With This Major?”

- **If your GPA is 3.0 or higher, you may be eligible to take a class (usually at the 100 or 200 level) from one of the other Loyola colleges. This is called cross-college enrollment, and it is one way to explore the majors that Loyola offers. Only a few cross-college enrollment spots are available each semester, and you will have to apply and be approved by the receiving dean. Additionally, you will need to meet any prerequisites for the class. Talk to your academic advisor to see if you are eligible for cross-college enrollment.**