Here’s some advice
We are going to cover

● Degreeworks
● Academic Options
● Internships
● Important Reminders
Degreeworks

- Degreeworks is your best source of information about:
  - What courses you need to take
  - What the prerequisites are for the courses you need to take
  - The number of career drops you've used
  - How much longer it will take you to graduate if you change majors “What if” functionality
The important things here are:

- **Advisor** - who do you contact with questions?
- **Earned hours** - need 120 total to graduate
- **Catalog year** - determines degree requirements (CS last significant change was in 2019)
- **Career Drops** - you can drop four courses without penalty
This student has earned 90 hours (previous slide) and is taking 15 hours this semester (credits applied is 105)

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits Needed</th>
<th>Requirement Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>120 Semester Hours Required for this Degree</td>
<td>Still needed</td>
<td>A minimum of 120 semester hours is required. You currently have 105 (this includes the courses for which you are registered); you still need 15 more semester hours after completing your current coursework to meet the minimum hour requirement. However, you may need additional hours to complete all remaining degree requirements.</td>
</tr>
<tr>
<td>30 Semester Hours Completed In Residence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graduation Information</td>
<td>Still needed</td>
<td>See Graduation Information section</td>
</tr>
<tr>
<td>General Education Requirements</td>
<td>Still needed</td>
<td>See General Education Requirements section</td>
</tr>
<tr>
<td>Major Requirements</td>
<td>Still needed</td>
<td>See Major in Computer Science section</td>
</tr>
<tr>
<td>You meet the minimum 2.0 GPA requirement.</td>
<td></td>
<td>To get a degree at App State, at least 30 hours must be earned here</td>
</tr>
<tr>
<td>Apply to Graduate through your AppalNet account</td>
<td>Still needed:</td>
<td></td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>--------------</td>
<td></td>
</tr>
<tr>
<td></td>
<td>If you plan to complete your degree requirements within the next two terms, please be sure to apply to graduate through your AppalNet account. Please review your degree requirements with your advisor to be certain that you are on track for graduation.</td>
<td></td>
</tr>
</tbody>
</table>

You need to apply to graduate one semester before you plan to graduate (e.g. right now if you plan to graduate in May 2024)
### General Education Requirements

#### Catalog year: 2020-2021

--- For detailed General Education Program of Study information, click here ---

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Discipline</th>
<th>Credits</th>
<th>Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>UCD 1200</td>
<td>LAND CONSERVATION IN NW MTNS</td>
<td>A</td>
<td>3</td>
<td>Spring 2021</td>
</tr>
<tr>
<td>R, C 1000</td>
<td>EXPOSITORY WRITING</td>
<td>A</td>
<td>3</td>
<td>Fall 2020</td>
</tr>
<tr>
<td>R, C 2001</td>
<td>INTR WRITING ACROSS CURRICULUM</td>
<td>B+</td>
<td>3</td>
<td>Spring 2022</td>
</tr>
<tr>
<td>C, S 2435</td>
<td>INTRO TO SCIENTIFIC PROGRAM</td>
<td>B-</td>
<td>4</td>
<td>Fall 2020</td>
</tr>
<tr>
<td>P, E 1754</td>
<td>WEIGHT TRAINING</td>
<td>B+</td>
<td>1</td>
<td>Spring 2022</td>
</tr>
<tr>
<td>P, E 1876</td>
<td>ALPINE SNOWBOARDING</td>
<td>A</td>
<td>1</td>
<td>Spring 2023</td>
</tr>
<tr>
<td>A, S 2016</td>
<td>APPALACHIAN MUSIC</td>
<td>A</td>
<td>3</td>
<td>Spring 2023</td>
</tr>
<tr>
<td>A, S 2200</td>
<td>APPALACHIAN STORIES</td>
<td>A</td>
<td>3</td>
<td>Fall 2022</td>
</tr>
<tr>
<td>A, S 2411</td>
<td>APPALACHIA: AN INTRODUCTION</td>
<td>A</td>
<td>3</td>
<td>Spring 2023</td>
</tr>
<tr>
<td>HIS 1102</td>
<td>WORLD CIVILIZATION II</td>
<td>P C</td>
<td>3</td>
<td>Fall 2020</td>
</tr>
<tr>
<td>R, M 2100</td>
<td>LEISURE IN SOCIETY</td>
<td>--</td>
<td>(3)</td>
<td>Fall 2023</td>
</tr>
</tbody>
</table>

**Appears wherever you have a requirement left to meet**

(A discipline prefix is HIS or CS.)

Notice the link to get information about the gen ed requirements.
## Major in Computer Science

**Catalog year:** 2020-2021

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Grade</th>
<th>Credits</th>
<th>Term</th>
<th>Repeated</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 3695</td>
<td>TECHNICAL WRITING FOR COMP SCI</td>
<td>A</td>
<td>3</td>
<td>Spring 2023</td>
<td></td>
</tr>
<tr>
<td>Still needed:</td>
<td>Capstone Course still needed.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### MAJOR REQUIREMENTS

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Grade</th>
<th>Credits</th>
<th>Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>C_S 1440</td>
<td>COMPUTER SCIENCE I</td>
<td>A-</td>
<td>4</td>
<td>Spring 2021</td>
</tr>
<tr>
<td>C_S 2440</td>
<td>COMPUTER SCIENCE II</td>
<td>A-</td>
<td>4</td>
<td>Fall 2021</td>
</tr>
<tr>
<td>C_S 2450</td>
<td>INTRO TO COMPUTER SYSTEMS</td>
<td>B-</td>
<td>3</td>
<td>Fall 2022</td>
</tr>
<tr>
<td>C_S 2490</td>
<td>INTRO THEORETICAL CMP SC</td>
<td>B</td>
<td>3</td>
<td>Fall 2022</td>
</tr>
<tr>
<td>C_S 3430</td>
<td>DATABASE</td>
<td>A</td>
<td>3</td>
<td>Fall 2022</td>
</tr>
<tr>
<td>C_S 3460</td>
<td>DATA STRUCTURES</td>
<td>B-</td>
<td>3</td>
<td>Spring 2022</td>
</tr>
<tr>
<td>C_S 3481</td>
<td>COMPUTER SYSTEMS I</td>
<td>--</td>
<td>(3)</td>
<td>Fall 2023</td>
</tr>
</tbody>
</table>
If you click on a course that you need to take, you will be shown the course description, including the prerequisites. Note the minimum grade requirements.
**Fall Through**

Credits applied: 47  Classes applied: 18

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Grade</th>
<th>Credits</th>
<th>Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART ELET</td>
<td>ART ELECTIVE 10 YEAR</td>
<td>TRC</td>
<td>4</td>
<td>Fall 2022</td>
</tr>
</tbody>
</table>

**Fall through** courses are those that contribute to the 120 hours to graduate but don’t meet a degree requirement.

Generally these are courses that were taken at another university.

CS students are required to take “free electives” (any course) to get to 120 hours. These show up in the **major block**. It’s possible for a CS student to graduate with no “fall through” courses.

(This student has 18 fall through courses. Only one is shown here.)
Minors will show up on the page of info with your major.
If you want to see what you need to complete for your Data Science Certificate, you need to select that from the Degree drop down list.
Academic Option: Accelerated Bachelors to Masters

- If you have a GPA of 3.2 or above (or you’re going to do the work to get it there), think about entering the Accelerated Bachelors to Masters Program
- During your senior year, you can take grad courses that count toward both your undergraduate degree and a future graduate degree
  - Up to 12 hours can double count

Students who graduate with an MS typically have better job opportunities than those with only a BS

For more information contact CS graduate program director: Dr. Mitch Parry, parryrm@appstate.edu
Academic Option: Data Science Certificate

• Data scientists extract meaningful insights from data using
  • statistics
  • algorithms
  • programming skills

• Data scientists use data to answer questions like:
  • Will this person renew their subscription?
  • What kind of car is this person likely to buy?
  • Is this a picture of a cat or a dog?
Data Science Certificate Requirements

- Although the certificate is open to all majors, it is easier for CS majors to earn because of the significant overlap in requirements
- Requirements:
  - **CS 2435**: Introduction to Scientific Programming (Programming in Python)
    - CS 2440: Computer Science II can be a substitute
  - **Math 2240**: Linear Algebra
    - Required for CS major
  - **Stat 3850**: Statistics
    - Required for CS major
  - **CS 3435**: Data Acquisition and Visualization
    - The one “extra” course, but it also contributes to the 120 hours needed to graduate
  - **CS 4755**: Applied Machine Learning
    - Counts as CS elective (12 hours of CS electives required for CS major)
### Why Data Science Certificate?

**50 Best Jobs in America for 2022**

- **Best Places to Work**
- **Top CEOs**
- **Best Jobs**
- **Best Cities for Jobs**
- **Highest Paying Jobs**

**Discover Glassdoor’s Best Jobs in 2022**

Using Glassdoor’s unique data on jobs, salaries, and companies, we compiled a list of the **50 Best Jobs in America** to help people find jobs they’ll love. Each job stands out for its earning potential (median salary), job satisfaction, and job openings. Are you considering a new position? Check out this comprehensive list to see what jobs made the list this year, and view open jobs at companies across the country.

<table>
<thead>
<tr>
<th>Job Title</th>
<th>Median Base Salary</th>
<th>Job Satisfaction</th>
<th>Job Openings</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1 Enterprise Architect</td>
<td>$144,997</td>
<td>4.1/s</td>
<td>14,021</td>
</tr>
<tr>
<td>#2 Full Stack Engineer</td>
<td>$101,794</td>
<td>4.3/s</td>
<td>11,252</td>
</tr>
<tr>
<td>#3 Data Scientist</td>
<td>$120,000</td>
<td>4.1/s</td>
<td>10,071</td>
</tr>
</tbody>
</table>

[View Jobs](#)
Academic Option: Department Honors Program

- To graduate with Honors in Computer Science, a student must:
  - Earn a minimum of 9 hours of honors credit:
    - 6 hours of honors courses in Computer Science
    - 3 hours of honors thesis/project (instead of Capstone)
  - Possess a minimum GPA of 3.45 in the Computer Science major upon graduation

- Graduate courses count as Honors courses
  - Take Graduate courses to graduate with honors and simultaneously work toward earning the Master’s degree
Why Honors?

- Richer, more in-depth educational experience
- Interested in becoming a faculty member in higher education?
  - PhD required by most institutions
  - PhD generally requires writing a thesis
  - Honors provides the opportunity to write a thesis
- Interested in becoming a Researcher in academia or industry
  - Honors provides the opportunity to perform research under the guidance of a faculty member

For more information contact CS department honors program director:
Dr. Mark Hills, hillsma@appstate.edu
Academic Options: Minors

Math minor

- MAT 1120: Calculus II plus 9 more hours
  - MAT 2240: Linear Algebra
  - MAT 4310: Numerical Methods (counts as CS elective)
  - MAT 2310: Computation Mathematics (prerequisite to MAT 4310)

You can get the Math minor with one extra course: MAT 2310

Cybersecurity minor

- 15 hours of coursework (five courses)
- [https://cis.appstate.edu/cybersecurity/cybersecurity-minor](https://cis.appstate.edu/cybersecurity/cybersecurity-minor)
- Our CS 3760 System Administration and Security counts!!
Internships

- Internships provide real-life experiences at partner colleges or industries
  - Often an internship will lead to a job offer upon completion of a degree
- Spring 2023 graduates
  - 66% of graduates sought an internship
  - 62% of those seeking an internship were able to obtain one
- CS 4900 Internship course is an approved Computer Science elective!
  - 18 interns in CS 4900 last summer, 10 last academic year
- Lots of variety
  - Big company, small company
  - On-site experience, remote experience
  - Local company, regional company, “West Coast” company (San Francisco, Seattle)

All of you should be looking for an internship at some point in your academic career. Typical time to look is in the fall/spring of your junior year (internship in summer after junior year)
How to find an internship

- [https://cs.appstate.edu/internships/] (https://cs.appstate.edu/internships/)
  - Sign up to get emails about flyers
  - Look at recent internship organizations
- Club meetings
- Handshake: [https://careers.appstate.edu/handshake](https://careers.appstate.edu/handshake)
- App State Career Center job and internship fairs
- Linked In
- Indeed
- Mom / Dad
Some final important notes

- CS 3667: Software Engineering must be taken before CS 4800 Capstone
- ENG 3695: Technical Writing in CS is taken instead of CS 3100
- ENG 3695 must be taken before CS 4100 Senior Seminar
- CS 2490 is a new prerequisite for CS 3460
- Apply for graduation at the beginning of the semester in the semester before you plan to graduate. Apply through appalnet.
- Select Gen Ed themes through Appalnet
  - Be sure to select a Science Inquiry that also meets your CS degree requirements
Some final important notes

- Adding/removing a certificate/major/minor and changing catalog year is done through an online form on the College of Arts & Sciences website
  - [https://cas.appstate.edu/advising/student-forms](https://cas.appstate.edu/advising/student-forms)
  - If you want to add a major in another college, you need to seek advising in that college
- Last day to use a career drop for this semester is **Wednesday, October 25th**
  - You have four career drops available throughout your academic career
  - You also have four repeats (for four **different** courses) where a grade is replaced
- Dept “Advising Corner” webpage: [compsci.appstate.edu](http://compsci.appstate.edu)
Questions?