Course Flow (Basic Science & Compulsory courses)

Academic Year 2022

Legend

- Compulsory
- Prerequisite

Academic Year 1

<table>
<thead>
<tr>
<th>Fall</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physics(I)</td>
<td>Physics(II)</td>
</tr>
<tr>
<td>Chemistry(I)</td>
<td>Chemistry(II)</td>
</tr>
<tr>
<td>General Biology(I)</td>
<td>General Biology(II)</td>
</tr>
</tbody>
</table>

Academic Year 2

<table>
<thead>
<tr>
<th>Fall</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calculus(I)</td>
<td>Calculus(II)</td>
</tr>
<tr>
<td>Linear Algebra</td>
<td>Discrete Mathematics</td>
</tr>
<tr>
<td>Intro. to Computers and Programming</td>
<td>Data Structures and Object-oriented Programming</td>
</tr>
<tr>
<td>Intro. to Algorithm</td>
<td>Intro. to Programming (Verification test)</td>
</tr>
</tbody>
</table>

Academic Year 3

<table>
<thead>
<tr>
<th>Fall</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Mathematics</td>
<td>Intro. to Operating Systems</td>
</tr>
<tr>
<td>Intro. to Algorithm</td>
<td>Computer Science and Engineering Projects(I)</td>
</tr>
<tr>
<td>Intro. to Computers and Programming</td>
<td>Computer Organization</td>
</tr>
<tr>
<td>Digital Circuit Design</td>
<td>Computer Science Seminars</td>
</tr>
</tbody>
</table>

Academic Year 4

<table>
<thead>
<tr>
<th>Fall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer Science and Engineering Projects(II)</td>
</tr>
</tbody>
</table>

Natural Science

- Physics(I), Chemistry(I), General Biology(I)

Mathematics

- Calculus(I), Calculus(II), Probability, Linear Algebra, Discrete Mathematics

Computer Science

- Intro. to Programming, Basic Programming (Verification test), Basic Mathematics, Intro. to Algorithm, Intro. to Operating Systems, Computer Organization, Computer Science Seminars, Digital Circuit Design

Basic Science & Compulsory courses

- Academic Year 2022
- Computer Science Seminars
- Computer Organization
- Computer Science and Engineering Projects(I)
- Computer Science and Engineering Projects(II)
- Intro. to Operating Systems
- Intro. to Algorithm
- Intro. to Programming (Verification test)
- Basic Mathematics
- Intro. to Computers and Programming
- Data Structures and Object-oriented Programming
- Linear Algebra
- Discrete Mathematics
- Calculus(I), Calculus(II)
- Physics(I), Physics(II)
- Chemistry(I), Chemistry(II)
- General Biology(I), General Biology(II)
Course Flow of Seven Topics Program

Academic Year 2022

Legend
- Program Compulsory
- Common Compulsory of 2 Programs

### Topics

**AI and Data Science**
- Intro. to Database Systems
- Intro. to Artificial Intelligence
- Intro. to Machine Learning
- Artificial Intelligence Capstone

**Computer Security**
- Intro. to Cryptography or Cryptography Engineering
- Intro. to Network Programming
- Computer Security Capstone

**Network Engineering**
- Principles of Communications and Wireless Networks
- Network Systems Capstone

**Multimedia Engineering**
- Numerical Methods
- Intro. to Computer Graphics
- Intro. to Image Processing
- Multimedia and Human Computer Interaction Capstone

**System Software**
- Intro. to Compiler Design
- Advanced Programming in the UNIX Environment
- Computer System Administration
- Operating Systems Capstone

**Software and Hardware Integration**
- Digital Circuit Lab.
- Microprocessor Systems: Principles and Implementation
- Embedded System Capstone

**Theory of Computation**
- Intro. to Formal Languages
- Graph Theory or Elementary graph theory
- Competitive Programming(I)
- Introduction to Approximation Algorithms

**Topics (Theory of Computation: Choose four courses from the right column)**
- Numerical Methods
- Combinatorial Mathematics
- Intro. to Artificial Intelligence
- Algorithmic Foundation of Machine Learning
- Information Theory and Data Compression Practices