Department of Computer Science and Information Technology

Bachelor of Science (B.S.) Information Sheet – Effective Fall 2020 Semester

The Department of Computer Science and Information Technology offers three Bachelor of Science (B.S.) degrees. There are eight (8) areas of study (concentrations) available under the three (3) majors.

- **B.S. in Computer Information Systems (BS CIS – declare using major code: cmis)**
  - **Systems Development Concentration** This program is for those who plan to work in some areas of computer applications in the business field. Areas of study include data communications, database management, and systems analysis and design, with an emphasis on programming in several languages that are useful for business applications.
  - **Information Assurance and Security Concentration** This program prepares students to work in the information security and data protection areas. The program features student selectable emphasis areas in information security technical administration, information security management and secure software development.

- **B.S. in Computer Information Technology (BS CIT – declare using major code: cmit)**
  - **Database Administration Concentration** This program trains students in the design, implementation, and administration of databases, including those accessed by Web applications.
  - **Internet and Web Technology Concentration** This program trains students in the development and support of Internet applications. It emphasizes the construction of Web sites and the use of scripting languages.
  - **Networking Concentration** This program provides students with an in-depth understanding of the foundations of data communication and modern networking technology and develops the technical skills needed to deploy and manage an enterprise network in a secure computing environment.

- **B.S. in Computer Science (BS CSC – declare using major code: csc)**
  - **Computer Theory and Systems Concentration** This program concentrates on the technical areas of computing with an emphasis on programming and algorithm design. It includes a significant mathematics component.
  - **Intelligent Robotics Concentration** This program provides students with a background in software development for autonomous robots. Students will study math, computer science, artificial intelligence and robotics.
  - **Software Engineering Concentration** This program focuses on the areas needed to develop and manage large software systems. Topics include requirements, software design and architecture, testing, software quality assurance, and project management.

Students need to complete the General Education Core requirements. Concentrations from B.S. CIS and B.S. CIT degrees require students to complete a minor or a second concentration. The Department of Computer Science and IT is in the Maynard Mathematics and Computer Science Building. There are currently over 600 majors in the department from which the department produces over 100 graduates each year. Transfer students and non-traditional students are welcome.

The Department also offers five minors in Computer Networking, Computer Science, Information Assurance & Security, Mobile Software Technology, and Web Technology.

Advisors are available to assist prospective students in choosing a concentration and planning a program that will lead to graduation. Information on all the programs in the Department is available at the Department’s Web site, [www.apsu.edu/csci](http://www.apsu.edu/csci).

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Last updated: March 24, 2020
B.S. in Computer Science
B.S. in Computer Information Systems
B.S. in Computer Information Technology

Graduation Checklist
___ Earn a minimum of 120 semester credit hours (overall GPA of 2.0 or better + APSU GPA of 2.0 or better).
___ Earn 33 semester credit hours of upper division courses (3000-4999 courses).
___ Earn >= 25% of the degree requirements in residency; earn >= 24 semester credit hours in the junior or senior years.
___ Complete the General Education Core courses.
___ Complete APSU 1000 during 1st semester, if entering APSU with fewer than 12 university credits.
___ Complete the requirements for the chosen major and concentration (GPA of 2.0 or better).
___ Complete the requirements for the chosen minor or second concentration if applicable (GPA of 2.0 or better).
___ Complete the Major Field Test (if required) during the semester of graduation, and Senior Exit Exam (CCTST).

General Education Core
Refer to the last two (2) pages of this document for all general education core courses.

41 Credit Hours

Concentration / Minor Chart
Our department offers eight (8) concentrations and five (5) minors.
Some concentration-minor restrictions apply.

*: cannot be chosen together to satisfy degree requirement
✓: can be chosen together to satisfy degree requirement

<table>
<thead>
<tr>
<th>Concentration</th>
<th>Minor</th>
<th>Computer Science</th>
<th>Computer Networking</th>
<th>Mobile Software</th>
<th>Web Technology</th>
<th>Info Assu &amp; Security</th>
</tr>
</thead>
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<tr>
<td>Comp Theory &amp; Sys</td>
<td>x</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Intelligent Robotics</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Software Engineering</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
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<td>Systems Development</td>
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<td>✓</td>
<td>✓</td>
<td>x</td>
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<tr>
<td>Database Admin</td>
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<td>✓</td>
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<td>x</td>
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<td>✓</td>
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<tr>
<td>Internet &amp; Web</td>
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<td>Network</td>
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<td>x</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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</tbody>
</table>
Bachelor of Science Degree in Computer Information Systems

A. General Education Core – Last 2 pages of this document  
   (41 Credit hours)

B. APSU 1000 - Transition to the University  
   (1 credit hour)

C. Major Requirements that Satisfy General Education Core  
   (possible double count)
   MATH 1530 - Elements of Statistics  
   3

D. Major Core Requirements  
   D.1 Lower Division Courses  
   (4 to 8 credit hours)
   CSCI 1010 - Introduction to Programming I  
   3
   CSCI 1011 - Introduction to Programming I Lab  
   1
   and
   CSCI 2010 - Introduction to Programming II  
   3
   CSCI 2011 - Introduction to Programming II Lab  
   1
   or
   CSCI 2000 - Programming and Data Structures using C++  
   4

   D.2 Upper Division Courses  
   (16 credit hours)
   CSCI 3200 - Principles of Information Security  
   3
   CSCI 3300 - Introduction to Web Development  
   3
   CSCI 3400 - Computer Organization I  
   3
   CSCI 3700 - Data Communications and Networking  
   3
   CSCI 4400 - Principles of Database Management  
   3
   CSCI 4800 - Computer Science and Information Systems Seminar  
   1

E Select ONE (1) CONCENTRATION from the concentrations listed (E.1 or E.2):  

E.1 Systems Development Concentration  
   (24 to 25 credit hours)
   Lower Division Courses  
   (12 to 13 credit hours)
   CSCI 2070 - Programming in Selected Languages I  
   3
   or
   CSCI 2080 - Programming Selected Languages II  
   3
   ENGL 1100 - Technical and Report Writing  
   3
   MATH 1530 - Elements of Statistics  
   3 (Gen Edn Core)
   MATH 1810 - Elements of Calculus  
   3
   or
   MATH 1910 - Calculus and Analytic Geometry  
   4
   Upper Division Courses  
   (12 credit hours)
   CSCI 3020 - XML Processing  
   3
   CSCI 4000 - Advanced Web Development  
   3
   or
   CSCI 4650 - Introduction to ASP.NET Programming  
   3
   CSCI 4100 - Operating Systems and Architecture  
   3
   CSCI 4750 - Systems Analysis and Design  
   3

E.2 Information Assurance and Security Concentration  
   (25 hours)
   Lower Division Courses  
   (6 hours)
   ENGL 1100 - Technical and Report Writing  
   3
   MATH 1530 - Elements of Statistics  
   3 (Gen Edn Core)
   Upper Division Courses  
   (19 hours)
   CSCI 3600 - Computer Ethics  
   3

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Last updated: March 24, 2020
CSCI 4613 - Cryptography 3 (previously 3603)
CSCI 4629 - Information Security Certification Workshop 1 (previously 3629)

Select four (4) courses from the list below
CSCI 4611 - Computer Forensics and Incident Response 3 (previously 3601)
CSCI 4612 - Securing Cyber Space (Web, DB, and Platform) 3 (previously 3602)
CSCI 4617 - IAS/Security Policy and Governance 3 (previously 3607)
CSCI 4619 - Ethical Hacking and Offensive Security 3 (previously 3619)
CSCI 4624 - Risk Management 3 (previously 3624)
CSCI 4625 - Intrusion Detection and Prevention 3 (previously 3625)
CSCI 4628 - IAS/Defensive Programming 3 (previously 3628)
CSCI 4632 - IAS/Secure Software Engineering 3 (previously 3630)
CSCI 4635 - IAS/Malware Analysis and Countermeasures 3
CSCI 4100 - Operating Systems and Architecture 3 (previously 4100)
CSCI 4520 - Network Security 3 (previously 4520)
CSCI 4750 - Systems Analysis and Design 3 (previously 4750)

F. Minor or Second Concentration  (18 hours)
   Some restrictions on minor may apply.

G. Free Electives  (14 to 19 hours)
   Or any credits to reach the “120 semester credit hours” graduation requirement.
   Can be fulfilled by a minor or another concentration.
B.S. in Computer Information Systems Prerequisite Chart

**Department of Computer Science and Information Technology**
**Austin Peay State University, Tennessee, USA**

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*Last updated: March 24, 2020*
## Bachelor of Science Degree in Computer Information Technology

**A. General Education Core – Last 2 pages of this document** (41 Credit hours)

**B. APSU 1000 - Transition to the University** (1 credit hour)

**C. Major Core Requirements**

**C.1 Lower Division Courses** (7 credit hours)
- CSCI 1005 - Computer Hardware, Software, and Programming Concepts 3
- CSCI 1015 - Introduction to Computer Programming 3
- CSCI 1018 - Introduction to Computer Programming Lab 1

**C.2 Upper Division Courses** (13 credit hours)
- CSCI 3200 - Principles of Information Security 3
- CSCI 3300 - Introduction to Web Development 3
- CSCI 3700 - Data Communications and Networking 3
- CSCI 4400 - Principles of Database Management 3
- CSCI 4800 - Computer Science and Information Systems Seminar 1

**D. Select ONE (1) CONCENTRATION from the concentrations listed (D.1 or D.2 or D.3):**

**D.1 Database Administration Concentration**

Upper Division Courses (18 credit hours)
- CSCI 3000 - Data Modeling 3
- CSCI 4460 - Content Management Systems 3
- CSCI 4650 - Introduction to ASP.NET Programming 3
- CSCI 4750 - Systems Analysis and Design 3

Select two (2) courses from the list below
- CSCI 4410 - Database Admin Using DB2 3
- CSCI 4420 - Database Admin-MS SQL Server 3
- CSCI 4430 - Database Admin Using Oracle 3
- CSCI 4440 - Introduction to Open Source Databases 3

**D.2 Internet and Web Technology Concentration**

Upper Division Courses (21 credit hours)
- CSCI 3350 - Web User Interface Design 3
- CSCI 4000 - Advanced Web Development 3
- CSCI 4050 - Multimedia Tools and Technique 3
- CSCI 4460 - Content Management Systems 3
- CSCI 4630 - Web Server Administrator 3
- CSCI 4750 - Systems Analysis and Design 3
- CSCI 4390 - Introduction to JAVA Server Pages 3
  or
- CSCI 4650 - Introduction to ASP.NET Programming 3

**D.3 Networking Concentration**

Upper Division Courses (18 credit hours)
- CSCI 3760 - Linux Network Operating System Administration 3
  or
- CSCI 3770 - Microsoft Windows Network Operating System Administration 3
- CSCI 3870 - Wireless Communication and Networking 3
- CSCI 4520 - Network Security 3
- CSCI 4630 - Web Server Administrator 3

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Last updated: March 24, 2020
E. Minor or Second Concentration
Some restrictions on minor may apply.

F. General Electives
(22 to 25 credit hours)
Or any credits to reach the “120 semester credit hours” graduation requirement.
Can be fulfilled by a minor or another concentration.

B.S. in Computer Information Technology Prerequisite Chart

- CSCI 1005 Com Hardware Software & Prog
- CSCI 1015 / 1018 Intro. to Comp. Programming & Lab
- CSCI 3700 Data Com. & Networking
- CSCI 3760 Linux Network OS Admin.
- CSCI 3770 MS Windows Network OS Admin.
- CSCI 3870 Wireless Comm. & Networking
- CSCI 4520 Network Security
- CSCI 4670 Network Applications
- CSCI 4770 Adv. Data Comm. & Networking
- CSCI 4400 Principles of Database Mgt.
- Select two from …
  - CSCI 4410 DB Admin Using DB2
  - CSCI 4420 DB Admin-MS SQL Server
  - CSCI 4430 DB Admin Using Oracle
  - CSCI 4440 Intro. to Open Source DB
- CSCI 4460 Content Management Systems
- CSCI 4650 Intro. to ASP.NET Programming
- CSCI 4750 Systems Analysis and Design
- CSCI 4630 Web Server Administration
- CSCI 4350 Web User Interface Design
- CSCI 4050 Multimedia Tools and Technique
- CSCI 4000 Advanced Web Development

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Bachelor of Science Degree in Computer Science

A. General Education Core – Last 2 pages of this document (41 Credit hours)

B. APSU 1000 - Transition to the University (1 credit hour)

C. Major Requirements that Satisfy General Education Core (possible double count)
   MATH 1910 - Calculus I 4
   Select two (2) courses from the list below 8
   ASTR 1010/1011, ASTR 1020/1021, BIOL 1110/1111, BIOL 1120/1121
   BIOL 2010/2011, BIOL 2020/2021, CHEM 1110/1111, CHEM 1120/1121
   GEOL 1040/1041, GEOL 1050/1051, PHYS 2010/2011, PHYS 2020/2021
   PHYS 2110/2111, PHYS 2120/2121

D. Major Core Requirements

D.1 Lower Division Courses (23 to 27 credit hours)
   CSCI 1010 - Introduction to Programming I 3
   CSCI 1011 - Introduction to Programming I Lab 1
   and
   CSCI 2010 - Introduction to Programming II 3
   CSCI 2011 - Introduction to Programming II Lab 1
   or
   CSCI 2000 - Programming and Data Structures using C++ 4
   CSCI 2070 - Programming in Selected Languages I 3
   or
   CSCI 2080 - Programming Selected Languages II 3
   MATH 1910 - Calculus I 4
   MATH 1920 - Calculus II 4
   Select two (2) courses from the list below
   ASTR 1010/1011 - Planetary Astronomy (and lab) 4
   ASTR 1020/1021 - Stellar Astronomy (and lab) 4
   BIOL 1110/1111 - General Biology I (and lab) 4
   BIOL 1120/1121 - General Biology II (and lab) 4
   BIOL 2010/2011 - Human Anatomy and Physiology I (and lab) 4
   BIOL 2020/2021 - Human Anatomy and Physiology II (and lab) 4
   CHEM 1110/1111 - General Chemistry I (and lab) 4
   CHEM 1120/1121 - General Chemistry II (and lab) 4
   GEOL 1040/1041 - Physical Geology (and lab) 4
   GEOL 1050/1051 - Historical Geology (and lab) 4
   PHYS 2010/2011 - College Physics I (and lab) 4 (Algebra/Trigonometry-based)
   PHYS 2020/2021 - College Physics II (and lab) 4 (Algebra/Trigonometry-based)
   PHYS 2110/2111 - University Physics I (and lab) 4 (Calculus-based)
   PHYS 2120/2121 - University Physics II (and lab) 4 (Calculus-based)

D.2 Upper Division Courses (25 credit hours)
   CSCI 3005 - Object Oriented Programming 3
   CSCI 3250 - Data Structure and Algorithms 3
   CSCI 3400 - Computer Organization I 3
   CSCI 4100 - Operating Systems and Architecture 3
   CSCI 4230 - Programming Languages 3

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<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>CSCI 4800</td>
<td>Computer Science and Information Systems Seminar</td>
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<td>CSCI 4805</td>
<td>Computer Science Capstone</td>
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<tr>
<td>or</td>
<td>CSCI 3900 - Internship</td>
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</tr>
<tr>
<td>MATH 3000</td>
<td>Discrete Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>MATH 3450</td>
<td>Linear Algebra</td>
<td>3</td>
</tr>
</tbody>
</table>

**E Select ONE (1) CONCENTRATION from the concentrations listed (E.1 or E.2 or E.3):**

**E.1 Computer Theory and Systems Concentration**

(15 credit hours)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tr>
<td>CSCI 3410</td>
<td>Computer Organization II</td>
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<tr>
<td>CSCI 4270</td>
<td>Algorithm Design and Analysis</td>
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Select one (1) course from the list below

<table>
<thead>
<tr>
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<th>Course Title</th>
<th>Credits</th>
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<td>MATH 4670</td>
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<td>STAT 3250</td>
<td>Statistical Methods</td>
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<tr>
<td>STAT 4240</td>
<td>Probability</td>
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Select two (2) courses from the list below

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<tr>
<td>CSCI 3090</td>
<td>Introduction to Parallel Programming</td>
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<tr>
<td>CSCI 3500</td>
<td>Theory of Automata, F. Lang. &amp; Com.</td>
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<tr>
<td>CSCI 3550</td>
<td>Introduction to Game Development</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 4350</td>
<td>Compiler Design</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 4450</td>
<td>Introduction to Artificial Intelligence</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 4550</td>
<td>Computer Graphics</td>
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**E.2 Intelligent Robotics Concentration**

(17 credit hours)

<table>
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<th>Course Title</th>
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<tbody>
<tr>
<td>CSCI 4270</td>
<td>Algorithm Design and Analysis</td>
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<td>CSCI 4450</td>
<td>Introduction to Artificial Intelligence</td>
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<td>CSCI 4560</td>
<td>Robotics I</td>
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<td>CSCI 4562</td>
<td>Robotics I Lab</td>
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<tr>
<td>CSCI 4561</td>
<td>Robotics II</td>
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<tr>
<td>STAT 3250</td>
<td>Statistical Methods</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td>STAT 4240 - Probability</td>
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**E.3 Software Engineering Concentration**

(15 credit hours)

<table>
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<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>CSCI 4600</td>
<td>Introduction to Software Engineering</td>
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<tr>
<td>CSCI 4601</td>
<td>Testing and Quality Assurance</td>
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<tr>
<td>CSCI 4602</td>
<td>Software Design and Architecture</td>
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<tr>
<td>or</td>
<td>STAT 4240 - Probability</td>
<td>3</td>
</tr>
</tbody>
</table>

**F. Free Electives**

(20 to 26 credit hours)

Or any credits to reach the “120 semester credit hours” graduation requirement.

Can be fulfilled by a minor or another concentration.
B.S. in Computer Science Prerequisite Chart

MATH 1910 or 1110 with a grade of "C" or higher; or ACT-M with score of 25 or higher
MATH 1920 with a grade of "C" or higher; or HS trigonometry and ACT-M score 27 or higher
MATH 1730 with a grade of "C" or higher; or ACT-M with score of 25 or higher

MATH 1910
Calculus I

MATH 1920
Calculus II

MATH 3000
Discrete Mathematics

MATH 3450
Linear Algebra

MATH 4670
Numerical Analysis

STAT 4240
Probability

STAT 3250
Statistical Methods

CSCI 1010 / 1011
Intro. to Programming I & Lab

CSCI 2010 / 2011
Intro. to Programming II & Lab

CSCI 3400
Computer Organization I

CSCI 3410
Computer Organization II

CSCI 3550
Intro. to Game Development

CSCI 3500

CSCI 3900
Internship

CSCI 4070
Operating Sys. & Architecture

CSCI 4100
Operating Sys. & Architecture

CSCI 4105
Operating Sys. & Architecture

CSCI 4200
Operating Sys. & Architecture

CSCI 4350
Compiler Design

CSCI 4450
Intro. to Artificial Intelligence

CSCI 3090
Intro. Parallel Programming

CSCI 3005
Object Oriented Programming

CSCI 4550
Computer Graphics

CSCI 4600
Software Design & Development

CSCI 4601
Testing and Quality Assurance

CSCI 4602
Software Design & Architecture

CSCI 4603
Requirements & Proj. Mgt.

Computer Theory and Systems Concentration

Intelligent Robotics Concentration

Software Engineering Concentration
### Computer Networking Minor

**Lower Division Courses** (3 credit hours)
- CSCI 1005 - Computer Hardware, Software, and Programming Concepts 3

**Upper Division Courses** (15 credit hours)
- CSCI 3700 - Data Communications and Networking 3
- CSCI 3760 - Linux Network Operating System Administration 3
  or
- CSCI 3770 - Microsoft Windows Network Operating System Administration 3
- CSCI 4520 - Network Security 3

**Select two (2) courses from the list below**
- CSCI 3870 - Wireless Communication and Networking 3
- CSCI 4670 - Network Applications 3
- CSCI 4770 - Advanced Data Communications and Networking 3

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### Computer Science Minor

**Lower Division Courses** (10 to 15 credit hours)
- CSCI 1010 - Introduction to Programming I 3
- CSCI 1011 - Introduction to Programming I Lab 1
  and
- CSCI 2010 - Introduction to Programming II 3
- CSCI 2011 - Introduction to Programming II Lab 1
  or
- CSCI 2000 - Programming and Data Structures using C++ 4
  or
- CSCI 2080 - Programming Selected Languages II 3

**Select one (1) of the math courses listed below**
- MATH 1730 - Precalculus 4
- MATH 1810 - Elements of Calculus 3
- MATH 1910 - Calculus I 4

**Upper Division Courses** (9 credit hours)
- CSCI 3400 - Computer Organization I 3

**Select six (6) credit hours of computer science courses listed below**
- CSCI 3005 - Object Oriented Programming 3
- CSCI 3250 - Data Structure and Algorithms 3
- CSCI 3410 - Computer Organization II 3
- CSCI 3500 - Automata Theory & Formal Languages 3
- CSCI 3550 - Introduction to Game Development 3
- CSCI 4010 - Mobile Software Development I 3
- CSCI 4020 - Mobile Software Development II 3
- CSCI 4230 - Programming Languages 3
- CSCI 4270 - Algorithm Design and Analysis 3
- CSCI 4350 - Compiler Design 3
- CSCI 4450 - Introduction to Artificial Intelligence 3
- CSCI 4550 - Computer Graphics 3
- CSCI 4600 - Introduction to Software Engineering 3

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### Information Assurance and Security Minor

**Lower Division Courses** (3 to 4 credit hours)
- CSCI 1005 - Computer Hardware, Software, and Programming Concepts 3

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Last updated: March 24, 2020
**Upper Division Courses** (21 credit hours)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCI 3200</td>
<td>Principles of Information Security</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 3600</td>
<td>Computer Ethics</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 3700</td>
<td>Data Communications and Networking</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 4520</td>
<td>Network Security</td>
<td>3</td>
</tr>
</tbody>
</table>

Select three (3) courses from the list below:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCI 4611</td>
<td>Computer Forensics and Incident Response</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 4612</td>
<td>Securing Cyber Space (Web, DB, and Platform)</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 4613</td>
<td>Cryptography</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 4617</td>
<td>IAS/Security Policy and Governance</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 4619</td>
<td>Ethical Hacking and Offensive Security</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 4624</td>
<td>Risk Management</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 4625</td>
<td>Intrusion Detection and Prevention</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 4628</td>
<td>IAS/Defensive Programming</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 4632</td>
<td>IAS/Secure Software Engineering</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 4635</td>
<td>IAS Malware Analysis and Countermeasures</td>
<td>3</td>
</tr>
</tbody>
</table>

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**Mobile Software Technology Minor** (25 credit hours)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCI 1010</td>
<td>Introduction to Programming I</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 1011</td>
<td>Introduction to Programming I Lab</td>
<td>1</td>
</tr>
<tr>
<td>or</td>
<td>CSCI 1015 - Introduction to Computer Programming</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td>CSCI 1018 - Introduction to Computer Programming Lab</td>
<td>1</td>
</tr>
<tr>
<td>or</td>
<td>CSCI 2000 - Programming and Data Structures using C++</td>
<td>4</td>
</tr>
<tr>
<td>CSCI 2070</td>
<td>Programming in Selected Languages I</td>
<td>3</td>
</tr>
</tbody>
</table>

**Upper Division Courses** (18 credit hours)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCI 3300</td>
<td>Introduction to Web Development</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 3350</td>
<td>Web User Interface Design</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 4000</td>
<td>Advanced Web Development</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td>CSCI 4650 - Introduction to ASP.NET Programming</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 4010</td>
<td>Mobile Software Development I</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 4020</td>
<td>Mobile Software Development II</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 4400</td>
<td>Principles of Database Management</td>
<td>3</td>
</tr>
</tbody>
</table>

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**Web Technology Minor** (22 credit hours)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCI 1005</td>
<td>Computer Hardware, Software, and Programming Concepts</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 1015</td>
<td>Introduction to Computer Programming</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 1018</td>
<td>Introduction to Computer Programming Lab</td>
<td>1</td>
</tr>
</tbody>
</table>

**Upper Division Courses** (15 credit hours)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCI 3300</td>
<td>Introduction to Web Development</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 3350</td>
<td>Web User Interface Design</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 4000</td>
<td>Advanced Web Development</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 4400</td>
<td>Principles of Database Management</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 4650</td>
<td>Introduction to ASP.NET Programming</td>
<td>3</td>
</tr>
</tbody>
</table>

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Last updated: March 24, 2020
Computer Networking Minor Prerequisite Chart

CSCI 1005
Com Hardware Software & Prog

CSCI 3700
Data Comm. & Networking

CSCI 3770 (choice)
MS Win. Network O.S. Admin.

CSCI 4770 (choice)
Adv. Data Comm. & Networking

CSCI 3760 (choice)
Linux Network O.S. Admin.

CSCI 3870 (choice)
Wireless Comm. & Networking

CSCI 4520
Network Security

CSCI 4670 (choice)
Network Applications

Computer Science Minor Prerequisite Chart

CSCI 2070
Programming Selected Lang. I
OR
CSCI 2080
Programming Selected Lang. II

CSCI 1010 / 1011
Intro. to Programming I & Lab

CSCI 2010 / 2011
Intro. to Programming II & Lab

CSCI Elective

CSCI 3400
Computer Organization I

CSCI Elective

Information Assurance & Security Minor Prerequisite Chart

CSCI 3700
Data Comm. & Networking

CSCI 1005 or 1010/1011

CSCI 3600
Computer Ethics

CSCI 4612
Securing Cyber Space

CSCI 4611
Comp. Forensics & Incid. Resp.

CSCI 4613
Cryptography

CSCI 3200
Principles of Info. Security

CSCI 4612
Securing Cyber Space

CSCI 3350
Web User Interface Design

CSCI 4613
Cryptography

MATH 1710 or MATH 1110 or MATH 1730 or ACT-M 25 or higher

CSCI 3760
Linux Network O.S. Admin.

Mobile Software Technology Minor Prerequisite Chart

CSCI 1010 / 1011
Intro. to Programming I & Lab
OR
CSCI 1015 / 1018
Intro. to Computer Programming & Lab

CSCI 2070
Programming in Selected Lang. I

CSCI 3300
Intro. to Web Development

CSCI 3350
Web User Interface Design

CSCI 4010
Mobile Software Development I

CSCI 4000 (choice)
Advanced Web Development

CSCI 4020
Mobile Software Development II

CSCI 4650 (choice)
Intro. to ASP.NET Programming

Web Technology Minor Prerequisite Chart

CSCI 1015 / 1018
Intro. to Computer Programming & Lab

CSCI 33300
Intro. to Web Development

CSCI 4000
Intro. to ASP.NET Programming

CSCI 1005
Com Hardware Software & Prog

CSCI 3350
Web User Interface Design

CSCI 4000
Advanced Web Development

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Last updated: March 24, 2020
General Education Core

Please refer to https://apsu.edu/registrar/bulletins.php > Bulletin Year > University-Wide Degree Requirements for the latest course list.

I. Communications (9 hours)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 1010</td>
<td>English Composition I</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 1020</td>
<td>English Composition II</td>
<td>3</td>
</tr>
<tr>
<td>COMM 2045</td>
<td>Public Speaking</td>
<td>3</td>
</tr>
</tbody>
</table>

II History (6 hours)

Complete two (2) courses from the list below

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST 2010</td>
<td>Early United State History</td>
<td>3</td>
</tr>
<tr>
<td>HIST 2020</td>
<td>Modern United States History</td>
<td>3</td>
</tr>
<tr>
<td>HIST 2030</td>
<td>History of Tennessee</td>
<td>3</td>
</tr>
<tr>
<td>HIST 2310</td>
<td>Early World History</td>
<td>3</td>
</tr>
<tr>
<td>HIST 2320</td>
<td>Modern World History</td>
<td>3</td>
</tr>
</tbody>
</table>

III Humanities and/or Fine Arts (9 hours)

Complete two (2) courses from different disciplines

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 2330</td>
<td>Topics in World Literature</td>
<td>3</td>
</tr>
<tr>
<td>ART 1035</td>
<td>Introduction to Art</td>
<td>3</td>
</tr>
<tr>
<td>DANC 1200</td>
<td>Introduction to Dance</td>
<td>3</td>
</tr>
<tr>
<td>MUS 1030</td>
<td>Introduction to Music</td>
<td>3</td>
</tr>
<tr>
<td>MUS 2030</td>
<td>World Music</td>
<td>3</td>
</tr>
<tr>
<td>MUS 2200</td>
<td>Popular World Music</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 1030</td>
<td>Introduction to Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 1040</td>
<td>Introduction to Ethics</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 2200</td>
<td>Religion and the World</td>
<td>3</td>
</tr>
<tr>
<td>THEA 1030</td>
<td>Introduction to Theatre</td>
<td>3</td>
</tr>
</tbody>
</table>

IV Mathematics (3 hours)

Complete one (1) course from the list below

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 1010</td>
<td>Mathematical Thought and Practice</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1110</td>
<td>Algebraic Problem Solving</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1420</td>
<td>Structure of Mathematical Systems II</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1530</td>
<td>Elements of Statistics</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1710</td>
<td>Precalculus Algebra</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1730</td>
<td>Precalculus</td>
<td>4</td>
</tr>
<tr>
<td>MATH 1810</td>
<td>Elements of Calculus</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1910</td>
<td>Calculus and Analytic Geometry</td>
<td>4</td>
</tr>
</tbody>
</table>

V Natural Sciences (8 hours)

Complete two (2) lecture/lab combinations from the list below

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASTR 1010/1011</td>
<td>Planetary Astronomy (and lab)</td>
<td>4</td>
</tr>
<tr>
<td>ASTR 1020/1021</td>
<td>Stellar Astronomy (and lab)</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 1010/1011</td>
<td>Introduction to Biology (and lab)</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 1020/1021</td>
<td>Diversity of Life (and lab)</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 1040/1041</td>
<td>Human Biology (and lab)</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 1110/1111</td>
<td>General Biology I (and lab)</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 1120/1121</td>
<td>General Biology II (and lab)</td>
<td>4</td>
</tr>
</tbody>
</table>

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BIOL 2010/2011 - Human Anatomy and Physiology I (and lab)  4
BIOL 2020/2021 - Human Anatomy and Physiology II (and lab)  4
BIOL 2400 - Sustaining Biodiversity  4
CHEM 1010/1011 - Introductory Chemistry I (and lab)  4
CHEM 1020/1021 - Introductory Chemistry II (and lab)  4
CHEM 1110/1111 - General Chemistry I (and lab)  4
CHEM 1120/1121 - General Chemistry II (and lab)  4
CHEM 1710/1711 - Introduction to Chemistry and Physics (and lab)  4
or
PHYS 1710 - Introduction to Chemistry and Physics  4
GEOL 1040/1041 - Physical Geology (and lab)  4
GEOL 1050/1051 - Historical Geology (and lab)  4
PHYS 1010/1011 - Understanding Physical World (and lab)  4
PHYS 1020/1021 - Understanding Physical World (and lab)  4
PHYS 2010/2011 - College Physics I (and lab)  4 (Algebra/Trigonometry-based)
PHYS 2020/2021 - College Physics II (and lab)  4 (Algebra/Trigonometry-based)
PHYS 2110/2111 - University Physics I (and lab)  4 (Calculus-based)
PHYS 2120/2121 - University Physics II (and lab)  4 (Calculus-based)

VI Social and Behavioral Sciences (6 hours)
Complete two (2) courses from different disciplines from the list below
AAST 2200 - Introduction African American Studies  3
COMM 1110 - Media and Social Institutions  3
ECON 2100 - Principles of Macroeconomics  3
GEOG 1015 - Physical Geography  3 (previously GEOG 1010)
GEOG 1035 - World Regional Geography I  3 (previously GEOG 1020)
GEOG 1045 - World Regional Geography 2  3 (previously GEOG 1030)
HHP 1250 - Wellness Concepts and Practice  3
LDSP 2100 - Foundations of Leadership  3
POLS 2000 - Introduction to Politics  3
POLS 2010 - American National Government  3
POLS 2040 - Introduction to Public Policy  3
POLS 2070 - International Politics  3
PSY 1030 - Introduction to Psychology  3
PSY 1050 - Psychology of Modern Culture  3
SOC 1010 - Introduction to Sociology  3 (previously SOC 2010)
SOC 1040 - Social Problems  3
SOC 2900 - Marriage and the Family  3
WGS 2050 - Women and Culture: Introduction to Women's and Gender Studies  3
ACT / SAT / Placement Test Math Requirements for Mathematics Courses

Note:
This is only for reference. APSU Department of Mathematics and Statistics decides the pre-requisite requirements for mathematics and statistics courses. Please refer to APSU Department of Mathematics and Statistics for details and latest changes.

<table>
<thead>
<tr>
<th>ACCUPLACER Placement Math Test</th>
<th>ACT Math</th>
<th>SAT Math</th>
<th>Course Sequence Business Track</th>
<th>Course Sequence Science Track</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;= 3</td>
<td>&lt;=18</td>
<td>&lt;=490</td>
<td>MATH 1530 or 1010 (Enhanced)</td>
<td>MATH 1530 or 1010 (Enhanced)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>MATH 1110 or 1710</td>
<td>MATH 1110 or 1710</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>MATH 1810</td>
<td>MATH 1730</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MATH 1910</td>
</tr>
<tr>
<td>&gt;= 4</td>
<td>19-24</td>
<td>500-590</td>
<td>MATH 1110 or 1710</td>
<td>MATH 1110 or 1710</td>
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<td></td>
<td>MATH 1810</td>
<td>MATH 1730</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td>MATH 1910</td>
</tr>
<tr>
<td></td>
<td>25-26</td>
<td>600-640</td>
<td>MATH 1810</td>
<td>MATH 1730</td>
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<td></td>
<td>MATH 1910</td>
</tr>
<tr>
<td></td>
<td>&gt;=27</td>
<td>&gt;=650</td>
<td>MATH 1810</td>
<td>MATH 1910</td>
</tr>
</tbody>
</table>

Refer to “B.S. in Computer Science Prerequisite Chart” above for MATH course pre-requisites.

Note:
- MATH 1910 is the first serious MATH course, and it is the pre-requisite for other higher-level MATH courses need by B.S. in Computer Science program.
- A student enrolled in B.S. in Computer Science program’s concentrations may need to take up to 10 MATH courses depending on the student’s ACT-Math score.
- If a student does not want to take so many MATH courses, they should consider concentrations in
  - B.S. in Computer Information Systems OR
  - B.S. in Computer Information Technology

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Last updated: March 24, 2020
Fall 2020 Semester CSIT Curriculum Changes – “Teach-Out” Plan

Note: This is only for reference. Please meet with your Computer Science advisor for advisement, to ensure timely graduation.

CSCI 1010 / 1011 co-requisite
- If you have not taken CSCI 1010 before, you need to change to Fall 2020 catalog in order to take CSCI 1010 and its co-requisite CSCI 1011 together. Chose major/concentration again.
- Deal with special case one by one.

CSCI 2010 / 2011 co-requisite
- If you have not taken CSCI 2010 before, you need to change to Fall 2020 catalog in order to take CSCI 2010 and its co-requisite CSCI 2011 together. Chose major/concentration again.
- Deal with special case one by one.

CSCI 1015 / 1018 co-requisite, and CSCI 1015 / 1018 not offered in the future
- If you have not taken CSCI 1015 before, you need to change to Fall 2020 catalog in order to take CSCI 1015 and its co-requisite CSCI 1018 together. Chose major/concentration again.
- CSCI 1015 / 1018 will be taught in Java. CSCI 1010 / 1011 will be taught in Java. As a result, CSCI 1015 / 1018 will not be offered in the future.
- CSCI 1005 will not be offered in Summer 2020.
- CSCI 1005 / 1018 will not be offered in Fall 2020.
- Advisor to request course substitution in Web Self Services.
  - Use 1010 to sub for 1015
  - Use 1011 to sub for 1018

- CSCI 1010 / 1011 and CSCI 2010 / 2011 will be taught in Java. CSCI 2070 will be taught in Java. CSCI 2070 and CSCI 2080 may not be in our new accreditation curriculum.
- If CSCI 2070 / 2080 will not be offered in the future, students can substitute CSCI 2070 with any upper division CSCI course (CSCI 3000-4999), provided this course is not used to satisfy any other program requirements (no “double-dip”).

CSCI 4940 not offered in the future
- CSCI 4940 is taken out of Fall 2020 catalog. It will not be offered in the future.
- Ask your advisor to request course waiver in one-stop. CSIT Dept. will waive this class.
- If students need credits, or special case, students can substitute CSCI 4940 with any upper division CSCI course (CSCI 3000-4999), provided this course is not used to satisfy any other program requirements (no “double-dip”).

CSCI 4562 Robotics I Lab, CSCI 4563 Robotics II Lab are not in student’s old catalog
- Cannot change to new catalog, csci3005 added to new catalog, more to come on this one.
- Handle this case by case. Refer to Dr. Nicholson.

Honors Courses – Only for Honors Students, 3000/4000 level, at least 6 credits
CSCI 4400 – future for all; current CIS, CIT
CSCI 3700 – future for all; current CIS, CIT
CSCI 4750 – future CIS, CIT,; current CIS Systems Dev, CIT database, web,
CSCI 4805 – future CS; current CS, half students
CSCI 3900 – future CS; current CS, half students
CSCI 4100 – future CS, CIS; current CS, CIS Systems Dev
CSCI 3300 – future CIS Systems Dev, CIT; current CIS, CIT

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