Bachelor of Science in Software Engineering

APPLICATION DOMAINS

(2019-2020)

**Application Domains (9 hours)**

An important aspect of Software Engineering education is the use of software engineering concepts in a particular application domain. Students must complete at least one of the Application Domains below. Additional Application Domains may become available. **Completing an Application Domain may require careful scheduling since many of these classes will not be offered every semester.** Students are strongly encouraged to consult with an advisor and to plan schedules to include the following tentative schedule and the required prerequisites. Courses in each of the domains can be substituted by other appropriate elective courses offered in a particular semester with consent of the Computer Science Department. Consult your Academic Advisor.

**Networks (9 hours) Prereqs**

|  |  |
| --- | --- |
| CS 4390 Computer Networks | CS/CE/SE/TE 3345 or Equivalent |
| CS 4393 Computer Network Security | CS/CE/SE/TE 4348 or Equivalent |
| CS 4396 Networking Laboratory | CS 4390 or Equivalent |

**Information Assurance (9 hours) Prereqs**

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| --- | --- |
| CS 4389 Data & Applications Security | CS/SE 4347 |
| CS 4393 Computer Network Security | CS/CE/SE/TE 4348 or Equivalent |
| CS 4398 Digital Forensics | CS/CE/SE/TE 4348, CS 4390, or Equivalent |

**Embedded Systems (9 hours) Prereqs**

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| --- | --- |
| CS 4341/4141 Digital Logic and Computer Design and Laboratory | CS/SE/TE 3340 or CE/EE 2310 and Phys 2326 |
| CS/SE/TE 4348 Operating Systems Concepts  | CS/SE/TE 3340 or Equivalent, CS/CE/SE/TE 3345, and CS/SE 3377 |
| CS 4397 Embedded Computer Systems | CS/SE/TE 4348 or Equivalent |

**Computer Imaging (9 hours) Prereqs**

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| --- | --- |
| CS 4361 Computer Graphics | Math 2418, CS/CE 2336, CS/CE/SE/TE 3345 or Equivalent |
| CS 4391 Introduction to Computer Vision | CS/CE/SE/TE 3345 or Equivalent |
| CS 4392 Computer Animation | Math 2418 and CS/CE/SE/TE 3345 or Equivalent |

**Artificial Intelligence & Cognitive Modeling Prereqs**

**(9 Hours - TAKE 3 of 5)**

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| --- | --- |
| CS 4314 Intelligent Systems Analysis | CGS 4313 or consent of instructor |
| CS 4315 Intelligent Systems Design | CGS 4313 or consent of instructor |
| CS 4365 Artificial Intelligence | CS/CE/SE/TE 3345 or Equivalent |
| CS 4375 Introduction to Machine Learning | CS/SE 3341 and CS/CE/SE/TE 3345 or Equivalent |
| CS 4395 Human Language Technologies | CS/SE 3341 and CS/CE/SE/TE 3345 or Equivalent |

**Human-Computer Interaction (9 hours) Prereqs**

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| --- | --- |
| CS 4352 Human Computer Interactions I |  |
| CS 4353 Human Computer Interactions II |  |
| CS 4361 Computer Graphics | Math 2418, CS/CE 2336, CS/CE/SE/TE 3345 or Equivalent |