



Bachelor of Science in Software Engineering Domain Track Process

As part of the Bachelor of Science in Software Engineering (BSSE) degree requirements, the domain track provides a means of applying software engineering in an application domain outside of computing (e.g., biology is a domain where software applications are commonly developed. Since the Computer Science program shares many common courses with Software Engineering, domain tracks for computer science oriented domains must be considered carefully and approved using the criteria and procedures for a domain track. This section provides procedures for students to declare their domain track, and procedures for proposing a new domain track for the Software Engineering program.

Domain Track Declaration Procedures

The following describes the domain track procedures to declare a domain track that meets the domain track requirements.

1. We recommend that software engineering majors meet with their academic advisors to discuss options for meeting the domain track requirements.
2. Software engineering majors must declare a domain track by Fall term of their Junior Year. If the student has a major in discipline other than software engineering or computer science, or a minor in a discipline other than math, then their domain track requirement will be met with the completion of the major or minor courses. If a student does not find a suitable domain track defined, then he or she may propose a new domain track using the Proposing a New Domain Track Procedures.
3. When declaring a domain track (including major or minor), the student must complete a Domain Track Declaration Form (DTDF) stating the selected domain track, and indicate the requisite courses to be taken. If a second major or a minor is being used in lieu of the domain track, that must be listed instead.
4. Once completed (or any time a substantial change is made to the DTDF), this DTDF must be approved and signed by the student's academic advisor and Software Engineering program director. Three copies of the DTDF are made:
 - a. One for the advisor's files .
 - b. One for the student's files.
 - c. One for Software Engineering program director's files.
 - d. The original DTDF is provided to the registrar for update of the student's plan of study.
5. If a course listed in a domain track will not be offered during the remaining time before a student's graduation, the student can choose to request a suitable course substitution. A request must be made along with an updated DTDF submitted to the student's academic advisor and Software Engineering program director for approval. The signed copies are then distributed as in #4 above.

Approved Software Engineering Program Domain Tracks

The following are the approved Software Engineering Program Domain Tracks along with their requisite courses. Students can select from these one domain track for their plan of study.

- **Biochemistry (4-5 courses, 16-20 credit hours)**
 1. CHEM 113 General Chemistry II
 2. CHEM 230 Intro. to Organic Chem. & Biochemistry
or CHEM 251-252 Organic Chemistry I-II
 3. CHEM 330 Biochemistry
 4. CHEM 363 Quantum Chem. & Molecular Spectroscopy

- **Economic Computing (4 courses, 16 credit hours)**
 1. SV 150 Introduction to Microeconomics
 2. SV 152 Introduction to Macroeconomics
 3. IA 350 Intermediate Microeconomics
 4. IA 351 Intermediate Macroeconomics

- **Game Development Domain Track (5 courses, 20 credit hours)**
 1. CSSE 351 – Computer Graphics
 2. CSSE 352 – Computer Game Design
 3. CSSE 451 – Advanced Computer Graphics
 4. MA 323 – Geometric Modeling
 5. One of IA 334 – Creative Writing
or SV 231 – Introduction to Short Fiction
or GS237 Science Fiction or IA 241 Introduction to Film Studies

- **Genetics (4 courses, 16 credit hours)**
 1. AB 110 Biology – Cell Structure and Function
 2. AB 210 Mendelian and Molecular Genetics
 3. AB 411 Genetic Engineering
 4. AB 431 Genomics and Proteomics

- **International and Diversity Issues (4 courses, 16 credit hours)**
 1. IA 311 Issues in German Culture
 2. GS 384 Japanese Society
 3. EMGT 533 Intercultural Communication
 4. SV 373 Gender Issues
 5. and some type of international experience related to the domain track (requires CSSE department head approval)

- **International Business and Economics (4 courses, 16 credit hours)**
 1. SV 152 Introduction to Macroeconomics
 2. IA 351 Intermediate Macroeconomics
 3. GS 350, International Trade and Globalization

4. GS 351 International Finance (4 hours)
- **Mechanical Robotics (5 courses, 19 credit hours)**
 1. ME430 Mechatronics
 2. ES201 Cons & Acct Principles
 3. ES204 Mechanical Systems
 4. ME303 Kinematics
 5. ME435 Robotics Engineering
 - **Electrical Robotics (5 courses, 20 credit hours)**
 1. ME430 Mechatronics
 2. ECE203 DC Circuits
 3. ECE204 AC Circuits
 4. ECE205 Dynamical Systems and ECE497 Mobile Robotics
or
 5. CSSE413 Artificial Intelligence and ME435 Robotics Engineering
 - **World Security and Economics Domain Track (6 courses, 24 credit hours)**
 1. GS 163 International Relations
 2. GS 361 Politics of the Global Economy
 3. SV 150 Introduction to Microeconomics or SV 152 Introduction to Macroeconomics
 4. CSSE 432 Computer Networks
 5. CSSE 442 Computer Security
 6. MA 479 Cryptography
 - **Artificial Intelligence and Security (5 courses, 20 credit hours)**
 1. CSSE 432 - Computer Networks
 2. CSSE 442 - Computer Security
 3. MA 479 - Cryptography
 4. CSSE 413 - Artificial Intelligence
 5. SV 303 – Business and Engineering Ethics

Proposing a New Domain Track

The following describes the domain track procedures to propose a domain track that meets the CSSE Department's domain track requirements.

1. To propose a new domain track, the student must first write a proposal containing a domain track title, a description of the domain's purpose and rationale why it is being proposed, a list of courses for the domain track, and a short discussion of how the courses support the domain track's purpose. The proposal must meet the following criteria for a new domain track:
 - a. There must be 4 or more courses that define the application domain track.
 - b. At least 2 of the courses will be offerings outside of the CSSE department (unless rationale given for a viable Computer Science related domain track and is approved by the department).

- c. At least two of the courses for the domain track must be 300 level courses (or higher).
 - d. If a course is used to satisfy a CS or SE major, or a math minor, then it cannot also be used to satisfy the domain track.
2. The complete proposal must be first reviewed by the student's advisor and obtain a signature of approval.
3. The approved proposal must then be submitted to the Software Engineering program director for approval.
4. The proposal with approval signatures would then be submitted to the CSSE Department Head for approval. Once it is approved, it would then be added to the list of Software Engineering program domain tracks for use in student's DTFD.