**Core requirements (21 credits)**

CS18000(4), CS18200(3), CS24000(3), CS25000(4), CS25100(3), CS25200(4)

**Computational Science and Engineering Track**

Required Courses

CS31400

Electives

Option 1

List 1 – CS 30700, CS33400

List 2 – CS 35200, CS35400, CS38100, CS43400, CS34800 or CS44800, CS47100, CS49000

Option 2

List 3 – CS38100

List 4 – CS35400

List 5 – CS51400, CS51500, CS49700

List 6 – CS33400, CS35200, CS45600, CS47100, CS48300

**Computer Graphics and Visualization Track**

Required Courses

CS33400, CS31400 or CS38100

Electives

CS31400, CS35200, CS35400, CS38100, CS42200, CS43400, CS44800, CS47100, CS49000

**Database and Information Systems Track**

Required Courses

CS34800, CS38100, CS44800, CS37300, CS47300

Electives

Category 1

CS35200, CS35400

Category 2

CS35500, CS42600

Category 3

CS37300, CS42200, CS47100, CS47300, CS47800 or CS49700

**Foundations of Computer Science Track**

Required Courses

CS35200, CS38100

Electives

CS31400, CS33400, CS35500, CS44800, CS45600, CS47100, CS48300

**Machine Intelligence Track**

Required Courses

CS37300, CS38100, CS47100 or CS47300, STAT41600 or MA41600 or STAT51200

Electives

CS34800, CS35200, CS44800, CS45600, CS47100, CS48300, CS47300

**Security Track**

Required Courses

CS35400, CS35500, CS42600

Electives

CS30700, CS34800, CS35200, CS35300, CS37300, CS38100, CS40800, CS42200, CS44800, CS45600, CS48900, CS49000-DS0, CS49000-SWS

**Software Engineering Track**

Required Courses

CS30700, CS35200 or CS35400, CS40800, CS40700

Electives

CS34800, CS35200, CS35300, CS35400, CS37300, CS38100, CS42200, CS42600, CS44800, CS45600, CS47300, CS49000-DSO, CS48900, CS39000-VRA, CS39000-WAP, CS49000-SWS

**Software Engineering Track**

Required Courses

CS35200, CS35400, CS42200

Electives

CS30700, CS33400, CS35300, CS38100, CS42600, CS44800, CS45600, CS48900, CS490DS0