**Integrative-STEM (i-STEM) Education Major**

### STEM Core (14 units):

- TST161
- ETE261
- ETE271
- SCI #1
- SCI #2
- SCI #3
- MAT127
- MAT105 or 106
- Spec. #1
- Spec. #2
- Spec. #3
- Spec. #4

### T&E Science*

[Any BIO, CHE, PHY]

### Math

**STEM Electives [M, S* or T&E]**

- T&E Specialization allows [Required] Secondary endorsement in T&E Education: (i) 30 credits in T&E courses (with 12 credits at \( \geq 300 \) level) and (ii) pass the Tech. Education PRAXIS exam.

### Integrative-STEM Methods

- **Science** Methods
- **Math** Methods

### Middle School endorsement** in Math or Science, requires (i) 15 cr. of content courses in Math (and/or Science) and (ii) pass middle school praxis exam for Math (and/or Science). Approximately 100% of iSTEM students complete courses for one of these endorsements, and large majority complete both.

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#### i-STEM Specialization Descriptions

1. **Technology & Engineering Specialization**
   - ETE131**
   - PHY201 or PHY103

   T&E Specialization consists of four additional units selected from (1 course needs to be \( \geq 300 \) level):

   - ETE111
   - ETE275
   - ETE281
   - ETE341
   - ETE361
   - ETE371
   - ETE381
   - ETE461
   - ETE492

2. **Mathematics Specialization**
   - MAT128

   Math Specialization courses consists of any 4 additional MAT units numbered above MAT128. There are exceptions for only 2 of these units: (i) STA215, or above and (ii) one of MAT 111, 112, 114, 115, or 117 (middle school math content courses)

3. **Biology Specialization**
   - BIO185
   - CHE201
   - CHE202

   Biology specialization courses consists of 4 additional units, as described below:
   (a) two of the following three courses: BIO211, BIO221, BIO231
   (b) two units of BIO electives \( \geq 200 \) level

4. **Chemistry Specialization**
   - MAT128
   - CHE201
   - CHE202
   - Any 1 unit non-Chemistry science course

   Chemistry specialization courses consists of 4 additional units, as described below:
   (a) CHE321
   (b) Any 1 unit CHE elective \( \geq 300 \) level
   (c) Any 1 unit STEM elective (typically to support a middle school endorsement)

5. **Physics Specialization**
   - MAT128
   - PHY201
   - PHY202

   The Physics specialization courses consists of 4 additional units: (a) three courses from: PHY120, PHY161, PHY171, Any \( \geq 300 \) level PHY course and (b) any 1 unit STEM elective (typically to support a middle school endorsement).