

# THE COLLEGE OF NEW JERSEY

TCNJ's i-STEM Masters program is geared for certified teachers and consists of 3 categories of requirements

- (I) i-STEM Teaching & Learning Core (15cr.)
- (II) STEM Ed. Content & Research courses (9cr.)
- (III) Electives (12cr.)

## I i-STEM Teaching & Learning Core

15 Credits

- STEM 510: Foundations in i-STEM [3 cr]
  - STEM 520: i-STEM Pedagogy [3 cr]
  - STEM 530: i-STEM Curriculum [3 cr]
  - STEM 610: Emerging Trends & Issues in i-STEM Ed. [3 cr]
  - STEM 660: Creativity/Systems [3 cr]\*
  - STEM 700: i-STEM Ed. Capstone [0 cr]\*
- \*taken together

## II STEM Ed. Content & Research Courses

9 Credits

- STEM 631\*: Applied math & statistics for i-STEM Ed. [3 cr]
- STEM 6XX\*: (See STEM Ed. Content courses) [3 cr] →
- EDFN 508: Intro. to Research [3 cr]

\* STEM Education content courses purposefully integrate Science, Math, Engineering and Technology [Ex. STEM 671 & 681 cover various physics topics, while STEM641 covers various biology & chemistry content.]

### Available Courses

- STEM 635: Data Visualization & Analytical Information Design
- STEM 641: BioTech System and Sustainable Design
- STEM 661: Architecture/Civil Technology Systems
- STEM 671: Mechanical Technology Systems and Design
- STEM 681: Electronics Technology Systems and Design

## III Electives

12 Credits

### Four Approved Electives\*\* →

\*\* With appropriate elective choices there are several possible pathways, leading to either college (TCNJ) certificates and/or NJ State Certifications. Choosing any particular pathway is optional.

### Pathways

- |                                      |                                       |
|--------------------------------------|---------------------------------------|
| (A) Supervisor Certification         | (E) Middle School Math                |
| (B) Design                           | (F) Self-Defined                      |
| (C) Research                         | [Ex.: Science Concentration ... etc.] |
| (D) Inclusion Practices/ Special Ed. |                                       |

## TCNJ integrative-STEM Masters Degree Requirements

Complete:

- (i) Teaching & Learning Core (15 cr.)
- (ii) STEM631, one STEM Ed. content course and EDFN 508
- (iii) 4 approved electives
- (vi) a min. of a B-grade in all courses
- (v) a minimum cumulative GPA of 3.0 in Program courses.

College certificates and NJ State certifications are also possible.



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