FITCHBURG STATE UNIVERSITY

New Graduate Course Proposal

Form Procedure
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Course Title

Course Title: Internet of Things and Smart Cities

Proposed Banner Abbreviation: IoTSM

Banner limit of 30 characters, including punctuation, spaces, and special characters.

Department/Committee Information

The main contact person for the Graduate Curriculum Committee should fill out this form.

Requestor Name: Robin Chataut

Members of the Graduate Curriculum Committee:

Department / Unit Developing: Computer Science

Chair of Department for Program: Brady Chen   Chair Email: Brady Chen xchen@fitchburgs

Academic Dean of Department or Program: Margaret Hoey   Academic Dean E-mail: <Dr. Hoey> mhoey@fitchburg

Program Chair   The Program Chair for this request is among the people listed above.
* ⦿ Yes
  ○ No

Course Information

Course Description

CSC 8xxx is a special topics course dedicated to the study of the Internet of Things (IoT) and smart cities. IoT is currently a widely discussed technology worldwide where embedded devices interact with remote objects or persons through connectivity, such as Wi-Fi, Bluetooth, NFC, or other technologies. Industry, academia, and government are involved in different aspects of research and application of IoT. IoT is expected to transform many areas of our lives, including healthcare, manufacturing, infrastructure management in urban and rural areas, transportation, robotics, and agriculture. The new IoT applications enable smart city initiatives worldwide that can combat the strain of city growth, from traffic control to environmental issues. This course will introduce students to a wide range of topics in the broad areas of IoT, including foundations, architectures, components, applications, and challenges. IoT network engineering concepts and some key industries that IoT is revolutionizing will be examined, and real-world examples and cases, such as smart cities, smart homes, and smart cars, will be discussed.

Rationale and expected outcomes of offering the Course

After studying this course, students will be able to
• Understand general concepts of IoT
• State the technological trends which have led to IoT
• Describe the impact of IoT on society
• Understand IoT Network Architecture and Design
• Understand Smart Objects (Things in IoT)
• Understand IoT Connectivity
• Understand IoT Security
• Understand IoT Use Cases & Applications
• Describe Smart and Connected Cities

Number of Credits: 3

Discipline Prefix or Prefixes:	CSC	Brief rationale if more than one prefix:

Level of Course:	*C 7000 ⊙ 8000 C 9000	Brief rationale for level choice:: Topics course

The course will be:	☐ Requirement ☑ Elective	Elective or Requirement Note/Special:

Is there a similar undergraduate course?   *C Yes   ⊙ No

Does this course affect offerings in any other department or program?   *C Yes   ⊙ No

Course Enollment

Expected Average Enrollment: 20

This course is a replacement for: Course # / Name

Has the course been offered previously as a "Topics" course?   *⊙ Yes   C No   How often / when was it offered as a Topics course?   Summer 2021 and Summer 2022

Is this an Extended Campus Course?   *C Yes   ⊙ No

Which semester will this course be offered for the first time?:   2023   How often thereafter to be offered?:   Yearly

Course Requirements

Prerequisite course(s) if any:

Additional Requirements   Laboratory Hours: Fieldwork Hours:

Pre-Practicum Hours: Practicum Hours:

Other Requirements (specify):

Syllabus Upload

New Course Syllabus Upload: Syllabus CSC 8040.docx

Signatures

*Click on the **Submit Form** button at the bottom of the page after you have signed the form. You should receive an email confirmation that your signature has been completed.*

...3831343730

Robin Chataut   02/16/2022
Requester Signature   Date

...3134303437

Xuzhou Chen   02/16/2022
Department Chair Approval   Date

...3131313131

Margaret Hoey   02/18/2022
Academic Dean Signature   Date

...3832353139

Becky Copper Glenz   02/28/2022
SGOCE Dean Signature   Date

Approval of the Graduate Council   Date

Approval of the President   Date

Notification

Reviewed by the Registrar: _____

Reviewed by the Library: _____

SGOCE Admin. Assistant
Signature | Electronically signed by Denise Bertrand on 02/17/2022 9:13:23 AM |