CSC 138: COMPUTER NETWORKING FUNDAMENTALS

In Workflow

1. CSC Committee Chair (shaverdian@csus.edu;%20jouyang@csus.edu)
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3. ECS College Committee Chair (figgess@csus.edu)
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Approval Path

1. Thu, 13 Aug 2020 22:54:52 GMT
Anna Baynes (shaverdian): Rollback to Initiator
2. Wed, 30 Sep 2020 21:31:28 GMT
Anna Baynes (shaverdian): Approved for CSC Committee Chair
3. Wed, 30 Sep 2020 21:35:25 GMT
Nikrouz Faroughi (faroughi): Approved for CSC Chair
4. Mon, 12 Oct 2020 21:53:00 GMT
Gareth Figgess (figgess): Rollback to CSC Committee Chair for ECS College Committee Chair
5. Mon, 12 Oct 2020 22:35:00 GMT
Anna Baynes (shaverdian): Approved for CSC Committee Chair
6. Mon, 12 Oct 2020 23:26:44 GMT
Nikrouz Faroughi (faroughi): Rollback to CSC Committee Chair for CSC Chair
7. Tue, 13 Oct 2020 05:00:21 GMT
Anna Baynes (shaverdian): Approved for CSC Committee Chair
8. Tue, 13 Oct 2020 15:31:57 GMT
Nikrouz Faroughi (faroughi): Approved for CSC Chair
9. Fri, 23 Oct 2020 02:33:42 GMT
Gareth Figgess (figgess): Approved for ECS College Committee Chair
10. Fri, 23 Oct 2020 07:42:56 GMT
Kevan Shafizadeh (kevan): Approved for ECS Dean

Date Submitted: Wed, 30 Sep 2020 18:51:49 GMT

Viewing: CSC 138 : Computer Networking Fundamentals

Last edit: Fri, 16 Oct 2020 17:24:28 GMT

Changes proposed by: Jun Dai (217393411)

Contact(s):

Name (First Last)	Email	Phone 999-999-9999
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Catalog Title:

Computer Networking Fundamentals

Class Schedule Title:

Computer Network Fundamentals

Academic Group: (College)

ECS - Engineering & Computer Science

Academic Organization: (Department)

Computer Science

Will this course be offered through the College of Continuing Education (CCE)?

No

Catalog Year Effective:
Spring 2021 (2021/2022 Catalog)

Subject Area: (prefix)
CSC - Computer Science

Catalog Number: (course number)
138

Course ID: (For administrative use only.)
112021

Units:
3

In what term(s) will this course typically be offered?
Fall, Spring

Does this course require a room for its final exam?
Yes, final exam requires a room

Does this course replace an existing experimental course?
No

This course complies with the credit hour policy:
Yes

Justification for course proposal:
1. The prerequisite change is to avoid students worried about failing their current course from occupying enrollment. Our current course waitlists are filled.
2. The Computer Science department reviewed our courses based on current teaching practice and professional organization recommendations. This update is required for Computer Science program external accreditation.

Course Description: (Not to exceed 80 words and language should conform to catalog copy.)
Overview, structure, models, concepts, principles and protocols of computer networking. Network architecture, ISO/OSI reference model, TCP/IP protocol stack, layering. Protocol, encapsulation, socket. HTTP, FTP, SMTP, DNS, P2P, TCP, UDP. Multiplexing and demultiplexing, reliable data transfer, flow control, congestion control. Internet addressing, routing, forwarding, IP, ICMP. Error detection and correction, multiple access problem, LAN vs WAN, Ethernet, ARP, switching. Wireless standards. Network security, threats and attacks, defense and countermeasures. Cross Listed: CPE 138; only one may be counted for credit.

Are one or more field trips required with this course?
No

Fee Course?
No

Is this course designated as Service Learning?
No

Does this course require safety training?
No

Does this course require personal protective equipment (PPE)?
No

Does this course have prerequisites?
Yes

Prerequisite:
CSC 60, CSC 130. Not currently enrolled in CSC/CPE 138.

Prerequisites Enforced at Registration?
Yes

Does this course have corequisites?
No

Graded:
Letter

Approval required for enrollment?
No Approval Required

Course Component(s) and Classification(s):
Discussion

Discussion Classification
CS#04 - Lecture /Recitation (K-factor=1 WTU per unit)
Discussion Units
3

Is this a paired course?
No

Is this course crosslisted?
Yes

Do they meet together and fulfill the same requirement?
Yes

Please identify the crosslisted course:
CPE 138

Can this course be repeated for credit?
No

Can the course be taken for credit more than once during the same term?
No

Description of the Expected Learning Outcomes: Describe outcomes using the following format: 'Students will be able to: 1), 2), etc.'
Students completing this course will be able to:
1. Explain the basic principles, architecture, layered models, and implementations of computer networks.
2. Describe the details of important network protocols on different layers across the protocol stack.
3. Apply reliable communication including the various methods for error detection, correction, retransmission, flow control, and congestion control.
4. Explain the working mechanisms of routing, forwarding, internet addressing, and switching.
5. Identify professional and ethical responsibilities, and security issues and countermeasures.

Assessment Strategies: A description of the assessment strategies (e.g., portfolios, examinations, performances, pre-and post-tests, conferences with students, student papers) which will be used by the instructor to determine the extent to which students have achieved the learning outcomes noted above.
The following assessment strategies will be used:
1. Wireshark Labs (LO 1, 2, 3, 4);
2. Network Projects, such as Socket Programming Assignments (LO 1, 2, 3, 4);
3. Exams (LO 1-5).

Is this course required in a degree program (major, minor, graduate degree, certificate?)
Yes

Has a corresponding Program Change been submitted to Workflow?
No

Identify the program(s) in which this course is required:

Programs:
BS in Computer Science

Does the proposed change or addition cause a significant increase in the use of College or University resources (lab room, computer)?
No

Will there be any departments affected by this proposed course?
No

I/we as the author(s) of this course proposal agree to provide a new or updated accessibility checklist to the Dean's office prior to the semester when this course is taught utilizing the changes proposed here.
I/we agree

University Learning Goals

Undergraduate Learning Goals:
Competence in the disciplines
Knowledge of human cultures and the physical and natural world
Integrative learning
Personal and social responsibility
Intellectual and practical skills

Is this course required as part of a teaching credential program, a single subject, or multiple subject waiver program (e.g., Liberal Studies, Biology) or other school personnel preparation program (e.g., School of Nursing)?
No

GE Course and GE Goal(s)

Is this a General Education (GE) course or is it being considered for GE?
No

Please attach any additional files not requested above:
outline-138-cybersecurity-v9.pdf

Reviewer Comments:
Anna Baynes (shaverdian) (Thu, 13 Aug 2020 22:54:52 GMT): Rollback: Requested rollback
Gareth Figgess (figgess) (Mon, 12 Oct 2020 21:53:00 GMT): Rollback: As requested
Nikrouz Faroughi (faroughi) (Mon, 12 Oct 2020 23:26:44 GMT): Rollback: update

Key: 1041