

CTS - 2317 - Network Defense and Countermeasures II

XXX 3.0 New Course Proposal

Section I: Submission Information

Submission and Meeting Dates* 9/6/2021 for meeting ~~10/1/2021~~ 11/5/2021

Faculty Proposer(s)* Dr. Melinda Lyles and Dr. Mary Myers

Faculty Presenter* Dr. Melinda Lyles and Dr. Mary Myers

Hierarchy Owner (Department)*

Activity Log

Melinda Lyles

+ 2. Department of Computer Science

2. Computer Science

List of department/program faculty who support this proposal*

Dr. Mary Myers

Dr. Roger Webster

Prof David Piro

Does this course already exist in SCNS (already being offered at other state colleges and universities)?*

Activity Log

Melinda Lyles

+ Yes

Yes

Is this an "experimental course" that you intend to offer 3 or fewer times?*

Activity Log

Melinda Lyles

+ No

No

Course Prefix*

Activity Log

Melinda Lyles

+ CTS

CTS

Course Number* 2114 2317

New Course Prefix

Course Title* Network Defense and Countermeasures II

Course Description* Introduction to various methods used to ensure security across cloud platforms. Emphasis is placed on the strategic domain with special attention to adaptive and defense security, framing network policies, and achieving compliance. Examination of the operational domain to apply strategic decision-making processes to ensure secure networks.

Justification for new course* This course is being added as a requirement for the new AS Cybersecurity Operations Degree. The state frameworks require a course introducing various methods of security across cloud platforms with network defense and countermeasures in place.

Is this course replacing an existing FSW course?*

Activity Log

Melinda Lyles

+ No

No

Was a change of course prefix/number requested by SCNS?*

Activity Log

Melinda Lyles

+ No

Yes No N/A

Indicate the course prefix and number of the course to be replaced.*

N/A

Will the new course be equivalent to the course it is replacing?*

Activity Log

Melinda Lyles

+ N/A

Yes No N/A

Are you submitting a Course Discontinuation proposal for the course that is being replaced?*

Activity Log

Melinda Lyles

+ N/A

Yes No, not at this time N/A

Section II: Effective Dates

Published Effective Date for approved action*

Melinda Lyles
+ Fall 2022

Activity Log

Fall 2022

Requested Effective Date for Exception*

Melinda Lyles
+ N/A

Activity Log

N/A

Reason for requesting exception to effective date*

N/A

SECTION III: Proposed Course Requirements

Are you proposing any of the designations under K, L, or M be assigned to this course?*

Melinda Lyles
+ No

Activity Log

No

A. Course Prerequisites*

~~GTS1314~~ CTS 1314 Network Defense and Countermeasures I *Should this list "with with (with with (with with a G grade of "C" "C" or better?"-See Comment better) better better) better

B. Course Corequisites*

None

B. Is this course listed as a corequisite on a paired course?*

Melinda Lyles
+ No

Activity Log

Yes No

B. If Yes, please enter the prefix, number, and title of the paired course.

N/A

C. Topic Outline*

- **Enterprise Virtual Network Security Enterprise Cloud Network Security Enterprise Wireless Network Security** virtual, cloud, and wireless network security
- **Network Traffic Monitoring and analysis** Network of network traffic and logs monitoring and analysis
- **Incident response and forensic:** Investigation investigation
- **Threat assessments**
- **Business continuity and disaster Recovery** recovery
- **Risk Anticipation** anticipation with Risk Management risk and management
Threat Assessment with Attack Surface Analysis assessments
Threat Prediction with Cyber Threat Intelligence threat intelligence

D. Minimum grade required to pass the course* **C**

E. Course Credits or Clock Hours* **3 Credits**

F. Contact Hours (Faculty Load)* **3 Credits**

F. Do the contact hours differ from the course/lecture/lab credits?*

Activity Log

Melinda Lyles

+ **No**

Yes

No

F. If Yes, please explain. **N/A**

G. Grade Mode*

Activity Log

Melinda Lyles

+ **Standard Grading (A-F)**

Standard Grading (A-F)

H. Credit Type*

Activity Log

Melinda Lyles

+ **College Credit**

College Credit

I. Should any Program Restrictions be listed on this course?*

Activity Log

Melinda Lyles

+ **No**

I. List all program restrictions

Yes

No

J. Is this course repeatable for credit?*

Activity Log

Melinda Lyles

+ **No, course is not repeatable for credit**

Yes, course is repeatable for credit

No, course is not repeatable for credit

J. If course is repeatable, list the maximum number of credits the student may earn (including the first passing attempt).

K. Will this course be designated General Education (GE)?*

Activity Log

Melinda Lyles

+ **No**

Yes No

L. Will this course be designated Writing Intensive (WI)?*

Activity Log

Melinda Lyles

+ **No**

Yes No

M. Will this course be designated International or Diversity (I) focus?*

Activity Log

Melinda Lyles

+ **No**

Yes No

If you checked Yes to any question K, L, M, please provide justifications for including the designation(s) on this new course.

N/A

Section IV: Syllabus Course Competencies and Learning Outcomes

Integral GE Course Competencies and supporting Course Learning Outcomes*

General Education Competency Competencies Competency: Research and Evaluate and Communicate Think

Course Outcomes outcomes or Objectives Supporting objectives supporting the General Education Competency Competencies Selected Competency competency:

- **Explain SOC Security Operations Center (SOC) processes, procedures, technologies, and workflows. Explain the importance of SOC and Incident Response Teams (IRT) collaboration. Explain the architecture, implementation, and fine-tuning of Security Information and Event Management (SIEM) solutions (ex: Splunk, AlienVault, OSSIM, ELK). Integrate threat intelligence into SIEM Analyze enterprise and corporate level software for enhanced incident detection cloud and response network security system(s).**
- **Perform security threat analysis and apply Assess cybersecurity risk(s), facilitating a triage process. Construct briefings and reports of analysis, methodology, and results using SIEM solutions comprehension of risk management for network architecture.**

Supplemental GE Competencies and supporting Course Learning Outcomes*

N/A

Is this course identified by the State in FAC Rule 6A 14.0303 as a General Education Core course?*

Activity Log

Melinda Lyles

+ No

No

If YES, in which of the five General Education areas is this a Core course? (Drop down: Communication, Humanities, Social Sciences, Natural Sciences, Mathematics)

N/A

Additional Course Learning Outcomes*

Explain SOG processes, procedures, technologies, and workflows Plan, organize, and perform threat monitoring and analysis in the enterprise. Identify emerging threat patterns and perform security threat analysis and applying a triaging process. Construct briefings and reports of analysis methodology and results. Discover integrating threat intelligence into Security Information and Event Management (SIEM) for enhanced incident detection and response. Construct the Incident Response Process. Explain the importance of SOG and IRT collaboration for better incident response. Formulate threat cases (correlation rules) and create reports Analyze Security events and log collection, monitoring, and analysis.

- **Summarize Security Operations Center (SOC) processes Implement network digital forensic tools for hardware and software devices.**
- **Develop cyberdefense skills through authentication, procedures encryption, technologies log monitoring, and workflows administrative level exercises.**
- **Document the architecture Utilize packet sniffers, implementation network logs, and fine-tuning of Security Information implement log monitoring for a networking system.**
- **Conduct a cyberattack assessment and Event Management (SIEM) solutions (ex: Splunk respond with appropriate countermeasure(s).**
- **Document administrative security policies, AlienVault procedures, OSSIM ISO and NST standard(s).**
- **Formulate corporate level practices, ELK) policies, and procedures for identified network risks.**
- **Perform a mid-large business level incident response and digital forensic investigation.**
- **Explain the importance of SOG Implement disaster recover methods through network defense methods and Incident Response Teams (IRT) collaboration business practices.**

Section V: Impacts

Will this new course be included in any programs or certificates?*

Activity Log

Melinda Lyles
+ Yes

Yes No

List programs/certificates that will include this new course.*

AS Cybersecurity Operations Degree

Have you discussed the impact(s) with leaders of affected programs/department?*

Activity Log

Melinda Lyles
+ Yes

Yes No N/A

Section VI: State Information

Copy and Paste the SCNS Course Profile Description below (<http://scns.fldoe.org>),

THIS COURSE EXAMINES IN GREAT DEPTH THE PRINCIPLES, MECHANISMS AND IMPLEMENTATION OF NETWORK SECURITY AND DATA PROTECTION. STUDENTS LEARN TO UNDERSTAND THE TOPICS CIPHER BLOCK MODE, KEY DISTRIBUTION METHODOLOGY, PUBLIC KEY INFRASTRUCTURE, KERBEROS, X.509 DIRECTORY SECURITY, IP/WEB/EMAIL SECURITY, SLS (SECURED SOCKETS LAYER), PGP (PRETTY GOOD PRIVACY), AND NETWORK SECURITY MANAGEMENT FROM BOTH AN INTERNAL AND EXTERNAL SECURITY REFERENCE. BASIC NETWORKING CONCEPTS AND SECURITY PRINCIPALS REQUIRED.

ICS code for this course*

Activity Log

Melinda Lyles

+ [Advanced and Professional - 1.16.07 - Computer & Info Science](#)

[Advanced and Professional - 1.16.07 - Computer & Info Science](#)

Institutional Reporting Code*

Activity Log

Melinda Lyles

+ [11607 Computer And Infor Science](#)

[11607 Computer And Infor Science](#)

Course Attributes*

Activity Log

Sheila Seelau

+ [AA - AA Course](#)

- ~~[AS-AS Course](#)~~

Melinda Lyles

+ [AS AS Course](#)







[AA - AA Course](#)

Section VII: Attachments

List any related proposals that are being submitted for the same meeting that include this new course, or are directly linked to this proposal*

N/A The prerequisite New Program proposal for this course is AS Cybersecurity Operations degree, and New Course proposal for prerequisite ~~CTS1314~~ CTS 1314- Network Defense and Countermeasures I: It is are being presented as a new course at this month's the same meeting:-.

Steps for CTS - 2317 - Network Defense and Countermeasures II

Originator	<i>Status: Approved</i>
Participants  Melinda Lyles 9/6/2021 9:48 PM	
▼	
Department Chair/Program Coordinator/Director	<i>Status: Approved</i>
Participants  Mary Myers 9/7/2021 1:51 PM	
▼	
Academic Dean	<i>Status: Approved</i>
Participants ▲ Academic Dean Committee - School of Business and Technology  Thomas Norman * 9/16/2021 10:31 AM	
▼	
Curriculum Coordinator and Advising	<i>Status: Approved</i>
Participants ▲ Office of the Registrar and Advising Committee  Jeffrey Peterman * 9/21/2021 2:46 PM	
▼	
Office of Accountability (AASPIRE)	<i>Status: Approved</i>
Participants ▲ Office of Accountability (AASPIRE) Committee  D'ariel Barnard * 9/21/2021 3:58 PM	
▼	
Curriculum Committee	<i>Status: Approved</i>
Participants ▲ Curriculum Committee Curriculum Committee Nov. 5, 2021 meeting agenda  Sheila Seelau * 11/11/2021 10:59 AM	

Provost (Final Signature)

Status: *Approved*

Participants

▲ **Provost Committee**

 Eileen DeLuca * 11/15/2021 9:44 AM

Office of Accountability (AASPIRE)

Status: *Working*

Participants

▲ **Office of Accountability (AASPIRE) Committee**

D'ariel Barnard *

Office of the registrar-Curriculum Coordinator

Status: *Incomplete*

Participants

Jeffrey Peterman

Attachments for CTS - 2317 - Network Defense and Countermeasures II

New Course CTS2114 Network Defense and Countermeasures II.docx (uploaded by Melinda Lyles, 9/6/2021 9:48 pm) **CTS 2317 Reviewer Notes completed 10-11-21.docx** (uploaded by Sheila Seelau, 10/11/2021 5:06 pm) **CTS 2317 Network Defense and Countermeasures II syllabus 10-17-21.docx** (uploaded by Sheila Seelau, 10/17/2021 1:25 pm) **SCNS Email 9-16-2021 mutiple courses approved - CTS1314, CTS2317, CET2691, CIS2772, CGS2811.pdf** (uploaded by Sheila Seelau, 10/17/2021 1:26 pm) **CTS 2317 - Curriculum Committee Reviews_10-25-2021.docx** (uploaded by Kelsea Cid, 10/25/2021 6:00 pm) **CTS 2317 Network Defense and Countermeasures II syllabus 10-27-2021.docx** (uploaded by Sheila Seelau, 11/1/2021 6:55 pm) **CTS 2317 Review - edits finalized 11-1-2021.docx** (uploaded by Sheila Seelau, 11/1/2021 6:55 pm) **CTS 2317 Impact Report.pdf** (uploaded by Sheila Seelau, 11/1/2021 6:57 pm) **CTS 2317 Network Defense and Countermeasures II syllabus for Fall 2022.docx** (uploaded by Sheila Seelau, 11/11/2021 10:58 am)

Comments for CTS - 2317 - Network Defense and Countermeasures II

Sheila Seelau

11/11/2021 10:59 am [Reply](#)

CTS 2317 Network Security and Countermeasures II New Course proposal was accepted by unanimous vote of CC membership, 11/5/2021. This course will be added to the 2022-2023 catalog and may be offered beginning in Fall 2022.

Syllabus labeled "for Fall 2022" is finalized and ready to lock but should be held by the department chair or administrative assistant until the Document Manager files open for AY 2022-2023.

Tina Churchill

11/3/2021 11:01 pm [1 Reply](#) | [Reply](#)

Updated A. Course Prerequisites to match Syllabus: CTS 1314 (with a grade of "C" or better)

Sheila Seelau

11/4/2021 10:34 am

Sorry, I didn't get the word out to reviewers on this... Recent catalog language does not use the parentheses, so I've removed them from both the proposal and syllabus. We'll be working with Registrar & Advising on a guide to standardized catalog language.

Kelsea Cid

10/25/2021 6:00 pm [2 Replies](#) | [Reply](#)

The Curriculum Committee has completed their pre-meeting review of this course. Please see the Word document added on 10/25/2021 to review and/or answer reviewer comments/edits.

Sheila Seelau

11/1/2021 6:40 pm

I removed the parentheses from the prerequisite minimum grade to match current standard catalog language.

Sheila Seelau

11/1/2021 7:00 pm

Impact report run on CTS 2317 11/1/2021 & uploaded. Old impact report (on former course number) deleted.

Review comments - edits finalized 11/1/2021 document uploaded 11/1/2021. All edits completed on syllabus by Melinda Lyles. Corresponding proposal edits completed by S Seelau.

Syllabus updated 10/27/2021 is final version.

Please refer to these documents for the 11/5/2021 committee meeting.

Sheila Seelau

10/17/2021 1:32 pm [Reply](#)

10/14/2021 Syllabus revisions provided by Computer Science Dept. Chair Mary Myers.

10/17/2021 SSeelau uploaded revised syllabus and copied all changes to proposal in these fields: Course description, topic outline, and course learning objectives (under GE Competency and Other CLOs).

Syllabus labeled 10-17-2021 must be reviewed along with this proposal for the Nov. 5 Curriculum Committee (CC) meeting. CC&A group and CC will be notified.

Sheila Seelau

10/12/2021 2:14 pm [Reply](#)

SCNS Profile Description corrected 10/12/21.

Sheila Seelau

10/6/2021 11:13 am [1 Reply](#) | [Reply](#)

10/5/21 edits made by/with ML based on review comments:

- meeting date changed to Nov 5
- prerequisite = CTS 1314 with a grade of "C" or better
- topic outline edited; formatting corrected
- minimum grade = C verified
- Integral GE Competencies changed to Communicate and Evaluate
- supporting and additional CLOs modified; all moved to supporting [*Chair to review]
- formatting corrected (italics, punctuation); all acronyms identified
- all relevant changes matched to syllabus

Sheila Seelau

10/11/2021 5:07 pm

Uploaded reviewer notes with completions marked 10/11/21.

D'ariel Barnard

9/21/2021 3:58 pm [1 Reply](#) | [Reply](#)

Note: Course outcomes supporting the GenEd Competency in the Curriculog form do not match the syllabus file.

Sheila Seelau

10/5/2021 1:19 pm

Addressed with ML 10/5/2021 - SSeelau.

Jeffrey Peterman

9/21/2021 2:46 pm [1 Reply](#) | [Reply](#)

Course Attributes need to be changed to AA AA Course as these can be taken by any one.

Sheila Seelau

9/23/2021 11:59 am

Correction made 9/23/21 - S Seelau

Sheila Seelau

9/21/2021 11:57 am [Reply](#)

CC&A group - please advise on Course Attributes - AS or AA?
No program restrictions are set.

Sheila Seelau

9/21/2021 11:53 am [1 Reply](#) | [Reply](#)

The syllabus incorrectly listed CTS 1314 as both prerequisite and corequisite - the latter "with a grade of C or better."

When I revised the course number, I deleted the corequisite, changing it to "none" per the proposal.

I added the "with a C or better" notation to the prerequisite = CTS 1314, but then noticed that a minimum grade for the prerequisite is not indicated on the proposal.

Please review and advise whether a minimum grade should be added to the prerequisite on this proposal.

Sheila Seelau

10/5/2021 1:21 pm

Corrected on proposal and syllabus with ML 10/5/2021

Sheila Seelau

9/21/2021 11:46 am [Reply](#)

Per SCNS, the final approved course number = CTS 2317.

I have changed the Course Number in the proposal and syllabus, and uploaded the revised syllabus.

See attachments uploaded 9/21/2021.

Thomas Norman

9/16/2021 10:31 am [Reply](#)

I have reviewed and approve this proposal.

Signatures for CTS - 2317 - Network Defense and Countermeasures II

Provost (Final Signature)

Status: *Approved*

 Eileen DeLuca

11/15/2021

Crosslistings for CTS - 2317 - Network Defense and Countermeasures II

CTS - 2317 - Network Defense and Countermeasures II (parent proposal)

This proposal does not have any active crosslisted proposals.

Decision Summary for CTS - 2317 - Network Defense and Countermeasures II

Office of Accountability (AASPIRE)

Status: *Working*

Step Summary

This step requires 100% approval from all participants to move forward.

Participants

Totals

▲ Office of Accountability (AASPIRE) Committee

Users Approved: 0

D'ariel Barnard *

Users Rejected: 0

