Code # BU08

**New/Special Course Proposal-Bulletin Change Transmittal Form**

**Undergraduate Curriculum Council** - Print 1 copy for signatures and save 1 electronic copy.

**Graduate Council** - Print 1 copy for signatures and send 1 electronic copy to [mmcginnis@astate.edu](mailto:mmcginnis@astate.edu)

|  |
| --- |
| **New Course or**  **Special Course (Check one box)**  *Please complete the following and attach a copy of the catalogue page(s) showing what changes are necessary.* |

|  |  |
| --- | --- |
| J.K. Sinclaire 9/26/2013 **Department Curriculum Committee Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **COPE Chair (if applicable)** |
| John Robertson 9/26/2013 **Department Chair:** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **General Education Committee Chair (If applicable)** |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date… **College Curriculum Committee Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Undergraduate Curriculum Council Chair** |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date… **College Dean** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Graduate Curriculum Committee Chair** |
|  | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Vice Chancellor for Academic Affairs** |

1. Proposed Course Prefix and Number (For variable credit courses, indicate variable range.)

CIT 4523

2. Course Title – if title is more than 30 characters (including spaces), provide short title to be used on transcripts. Title cannot have any symbols (e.g. slash, colon, semi-colon, apostrophe, dash, and parenthesis). Please indicate if this course will have variable titles (e.g. independent study, thesis, special topics).

Advanced Network Telecommunications

3. Will this course be lecture only, lab only, lecture and lab, activity, dissertation, experiential learning, independent study, internship, performance, practicum, recitation, seminar, special problems, special topics, studio problems, student exchange, occupational learning credit, or course for fee purpose only (e.g. an exam)? Please choose one.

Lecture

4. What is the grade type (i.e. standard letter, credit/no credit, pass/fail, no grade, developmental)?

Standard Letter

5. Is this course dual listed (undergraduate/graduate)?

No

6. Is this course cross listed? (If it is, all course entries must be identical including course descriptions. It is important to check the course description of an existing course when adding a new cross listed course.)

No

7. Brief course description (40 words or fewer) as it should appear in the bulletin.

This course builds on the fundamental concepts covered in CIT 2523 by extensive coverage of major topics that include routing protocols, wireless LAN infrastructure, internetworking hardware, TCP/IP subnetting, VLANs, and network security.

8. Indicate all prerequisites and if this course is restricted to a specific major, which major. (If a student does not have the prerequisites or does not have the appropriate major, the student will not be allowed to register).

a. Are there any prerequisites?

CIT 2523

b. Why?

This course builds on the core concepts covered in CIT 2523

9. Course frequency(e.g. Fall, Spring, Summer). Not applicable to Graduate courses.

Spring of Even Years

10. Contact Person (Name, Email Address, Phone Number)

Russell Jones, [rjones@astate.edu](mailto:rjones@astate.edu), 972-3988

11. Proposed Starting Term/Year

Spring 2014

12. Is this course in support of a new program? No

If yes, what program?

Enter text...

13. Does this course replace a course being deleted? Yes

If yes, what course?

CIT 4103

Has this course number been used in the past? No

*Submit Course Deletion Proposal-Bulletin Change Transmittal Form.*

14. Does this course affect another program? No

If yes, provide contact information from the Dean, Department Head, and/or Program Director whose area this affects.

Enter text...

15. Justification should include:

a. Academic rationale and goals for the course (skills or level of knowledge students can be expected to attain)

Previously, the second networking/telecommunications course in the degree was CIT 4103 which was based upon the Microsoft Server platform. The market (prospective employers of our graduates) have indicated our students had a lack of the necessary hardware/technical tools to support the installation and maintenance of network infrastructure at both the LAN and WAN levels. Students who complete this course will be able to build, maintain, and troubleshoot the infrastructure for both wired and wireless networks within an organization.

b. How does the course fit with the mission established by the department for the curriculum? If course is mandated by an accrediting or certifying agency, include the directive.

The mission of the department is to provide the most updated curriculum possible to enable students to meet the ever changing demands of the technical marketplace. This change is made for that purpose.

c. Student population served.

CIT undergraduate students

d. Rationale for the level of the course (lower, upper, or graduate).

This course requires foundation concepts received in the first telecommunications course.

16. Outline (The course outline should be topical by weeks and should be sufficient in detail to allow for judgment of the content of the course.)

Week 1: Review of core telecommunications concepts

Week 2-3: LAN configuration

Addressing schemas

Segmentation

Switch configuration

DHCP/DNS configuration

Week 4: Wireless LAN

Standards and infrastructure

Security configuration

Week 5-7: Internetworking hardware

IOS

CLI

System file generation

Port configuration

Security hardware

Week 8-9: WAN configuration

Connectivity devices

Frame relay

PPP/NAT protocols

Week 10: TCP/IP subnetting

Week 11-12: VLANs

Trunking

Spanning Tree protocols

Etherchannel

InterVLAN routing

Week 13-14: Routing Protocols

RIP/OSPF/EIGRP

17. Course requirements (e.g. research papers, projects, interviews, tests, etc.)

Students will be required to complete over 60 lab assignments utilizing simulation software, quizzes, and written exams.

18. Special features (e.g. labs, exhibits, site visitations, etc.)

Lab simulations

19. Department staffing and classroom/lab resources (Will this require additional faculty, supplies, etc.?)

No

20. What is the primary intended learning goal for students enrolled in this course?

To be able to configure, maintain, and troubleshoot both LAN and WAN connections for an organization.

21. Reading and writing requirements:

a. Name of book, author, edition, company and year

Cisco Routing and Switching, Odom, Pearson,2013

b. Number of pages of reading required per week: 50-60

c. Number of pages of writing required over the course of the semester: 5

22. High-Impact Activities (Check all that apply)

Collaborative assignments

Research with a faculty member

Diversity/Global learning experience

Service learning or community learning

Study abroad

Internship

Capstone or senior culminating experience

Other Explain: Enter text...

23. Considering the indicated primary goal (in Box #20), provide up to three outcomes that you expect of students after completion of this course.

**Outcome #1:** (For example, what will students who meet this goal know or be able to do as a result of this course?)

Students will be able to design the infrastructure to support Internet and LAN connectivity for an organization

Learning Activity:(For example, what instructional processes do you plan to use to help students reach this outcome?)

Student will be tested with interactive exercises requiring them to design an appropriate infrastructure in a given scenario..

Assessment Tool: (For example, what will students demonstrate, represent, or produce to provide evidence of their learning?)

Online labs and written design

*(Repeat if needed for additional outcomes 2 and 3)*

**Outcome #2:**

Student will be able to design, monitor, and troubleshoot security on both intranets and Internet connections.

Learning Activity:

Same as #1

Assessment Tool:

Same as #1

**Outcome #3**:

Enter text...

Learning Activity:

Enter text...

Assessment Tool:

Enter text...

24. Please indicate the extent to which this course addresses university-level student learning outcomes:

* 1. Global Awareness

Minimally  
Indirectly  
Directly

* 1. Thinking Critically

Minimally  
Indirectly  
Directly

* 1. Using Technology

Minimally  
Indirectly  
Directly

**From the most current electronic version of the bulletin, copy all bulletin pages that this proposal affects and paste it to the end of this proposal.**

**To copy from the bulletin:**

1. Minimize this form.
2. Go to <http://registrar.astate.edu/bulletin.htm> and choose either undergraduate or graduate.
3. This will take you to a list of the bulletins by year, please open the most current bulletin.
4. Find the page(s) you wish to copy, click on the “select” button and highlight the pages you want to copy.
5. Right-click on the highlighted area.
6. Click on “copy”.
7. Minimize the bulletin and maximize this page.
8. Right-click immediately below this area and choose “paste”.
9. For additions to the bulletin, please change font color and make the font size larger than the surrounding text. Make it noticeable.
10. For deletions, strike through the text, change the font color, and enlarge the font size. Make it noticeable.

On page 137 of the current bulletin, replace CIT 4103 with CIT 4523

**Select five of the following:**

CIT 3033, Advanced Visual Basic Programming

CIT 3353, Mobile and Web Applications Development

CIT 3413, Advanced Database Management

CIT 3623, LAN Administration

CIT 3663, Data Mining

CIT 3853, Computer Forensics

~~CIT 4013, Advanced LAN Administration~~ CIT 4523, Advanced Network Telecommunications

CIT 409V, Special Problems in CIT

CIT 4623, Computer Security

CIT 4863, Current Topics in CIT

CIT 4883, Internship in CIT

**On page 408 of the current bulletin, insert the course description for CIT 4523 as shown:**

**CIT 3853. Computer Forensics** Students are introduced to information systems role in forensic computing. Emphasis will be on the retrieval, preservation, and analysis of computer data which might be used in legal cases. Suggest previous criminology courses or experience for FOSC majors before enrolling. Prerequisite, CIT 1503 or CS 1013. Fall.

**CIT 409V. Special Problems in Computer Information Technology** Individual problems in CIT arranged on a case by case basis after consultation with the instructor. Student must meet departmental requirements before enrolling in this course. Fall, Spring, Summer.

**CIT 4103. Advanced LAN Administration** Advanced networking administration issues are covered as they relate to local area networks. Students will be introduced to advanced client and server management topics necessary to administer a large complex network. Prerequisite, C or better in CIT 3623 or permission of instructor. Spring, even.

**CIT 4453. Global E-Commerce** Provides an understanding of the technologies behind E-commerce and how they enable the delivery of goods and services using electronic formats in a global context. Spring.

**CIT 4503. Business Technology Methods** The present status and software usage of busi- ness technology personnel. Special attention is given to instructional innovations. Intended for BSE majors. Fall.

**CIT 4513 Business Technology Field Experience** Provides business technology teachers, under direct supervision, the opportunity to develop and refine vocational competencies in office occupation. Special course fees may apply. Summer.

**CIT 4523. Advanced Network Telecommunications. This course builds on the fundamental concepts covered in CIT 2523 by extensive coverage of major topics that include routing protocols, wireless LAN infrastructure, internetworking hardware, TCP/IP subnetting, VLANs, and network security. Prerequisite: CIT 2523. Spring – Even Years.**

**CIT 4533. Word Processing II** Advanced word processing concepts and applications. Pre- requisite, CIT 2413 or consent of instructor. Spring, Demand.

**CIT 4603. Microcomputer Applications III** Course three of the study of the role of a soft- ware suite as a tool used in business. The applications covered will included, Word Processing, Spreadsheet, Database, and electronic presentations. Prerequisite, CIT 3503 and CIT 3533, or demonstrated proficiency. Spring.

**CIT 4623. Computer Security** Discusses the primary topics of computer security needed by IT professionals in both commercial and military installations. Includes access control, cryptography, continuity planning, physical security, and the overall management of security issues. Spring - Odd Years.

**CIT 4653. Automatic Data Capture** Methods, technologies, systems, and standards used in supply chain information systems and e-business for automatically identifying objects, and collect- ing and transferring data. Technologies such as bar coding, RFID, smart cards, magnetic striping, biometrics, GPS, real time locating, and voice data entry, as well as their business applications are addressed. Prerequisites, CIT 2033 and CIT 2523. Corequisite, CIT 3403. Fall.

**CIT 4853. IT Project Management** Provides students with the information needed to manage a technical project within a business environment. Students will work a project simulation through the project management cycle from project team selection to project implementation. Taken during last semester or with permission of instructor. Spring.

**CIT 4863. Current Topics in CIT** The content of this course will be based upon current issues within the business world as they relate to the use of computer and information technology. Pre- requisites, minimum of 60 hours and CIT 3013. Demand.

**CIT 488V. Internship in CIT** Provides practical information technology experience in a CIT setting. Students will be assigned to work with an outside organization to gain real world training. Prerequisite, Permission of Department Chair and Internship Director required. Fall, Spring, Sum- mer.