PURDUE UNIVERSITY
REQUEST FOR ADDITION, EXPIRATION, OR REVISION OF AN UNDERGRADUATE COURSE
(10000-49999 LEVEL)

DEPARTMENT: Computer Science
EFFECTIVE SESSION: Spring 2016

INSTRUCTIONS: Please check the items below which describe the purpose of this request.

- [X] New course with supporting documents
- [ ] Add existing course offered at another campus
- [ ] Explication of a course
- [ ] Change in course number
- [ ] Change in course title
- [ ] Change in course credit/type
- [ ] Change in course attributes (department head signature only)
- [ ] Change in instructional hours
- [ ] Change in course description
- [ ] Change in course requisites
- [ ] Change in semesters offered (department head signature only)
- [ ] Transfer from one department to another

PROPOSED:
Subject Abbreviation: CS
Course Number: 37600
Long Title: Multimedia Networking
Short Title: [ ]

EXISTING:
Subject Abbreviation: [ ]
Course Number: [ ]

TERMS OFFERED:
Check All That Apply:
- [X] Fall
- [X] Spring
- [ ] Summer

CAMPUS(ES) INVOLVED:
- Calumet
- Cont Ed
- Ft. Wayne
- N. Central
- Tech Statewide
- Indianapolis
- W. Lafayette

CREDIT TYPE
1. Fixed Credit: [X] 3 Cr. Hrs.
2. Variable Credit Range: [ ]
   Minimum Cr. Hrs. [ ]
   (Check One) To [Or] [ ]
   Maximum Cr. Hrs. [ ]
3. Equivalent Credit: [ ] Yes [X] No
4. Pass/Not Pass Only
5. Satisfactory/Unsatisfactory Only
6. Repeatable
7. Maximum Repeatable Credit: [ ]
8. Credit by Examination
9. Full Time Privilege
10. Off Campus Experience

Schedule Type
- Lecture
- Recitation
- Presentation
- Laboratory
- Lab Prep
- Studio
- Distance
- Clinic
- Experiential
- Research
- Ind. Study
- Pract/Observe

Minutes Per Mtg
75 2

Meetings Per Week
Weeks Offered
16

% of Credit Allocated
100

CROSS-LISTED COURSES

OFFICE OF THE REGISTRAR
ASSEMBLY OF REPRESENTATIVES DOCUMENT

Document No. 15-16 (2)  
Date 10-09-2015  
(Date sent forward)

To: Curriculum Committee  
College of Engineering, Technology, and Computer Science

The Curriculum Committee for the Department of Computer Science submits the attached document for your recommendation.  
Entitled: Revised Bachelor of Science in Computer Science

[Signatures of all department committee members]

To: Assembly of Representatives

The Curriculum Committee of the College of Engineering, Technology, and Computer Science

☑ Recommends       ☐ Does not recommend the approval of the attached document.

# of votes: Yes 16, No 0  
(Signatures of all Assembly committee members)

Assembly of Representatives Action

☑ Approved       ☐ Disapproved  

# of votes: Yes 16, No 0

To: Dean, ETCS

☑ Approved       ☐ Disapproved

[Signatures of the Dean and Assembly Chair]
Revised *Bachelor of Science* in Computer Science

Curriculum

**Background Information and Rationale**

The Department of Computer Science proposes the following revision to the *Bachelor of Science* program in Computer Science.

By the recommendation of the Curriculum Committee of the Department a new course shall be added to the BSCS curriculum:

**CS 37500 Multimedia Networking**

Prerequisite: CS 27400

The course will be added as a new electable course to the concentration area ‘Network Computing’.

The new course offers a modern networking topic of increasing popularity, and it may serve as a stepping stone toward additional widening of the networking area.

The attached bingo sheet clarifies the requested change. Please note there is no change in any of the credit hour requirements.

The CS Department requests the approval of the above proposal effective Spring Semester 2016.

Attached documents:
- Form 40
- Syllabus
- Bingo sheet
Course Syllabus

Course Number: CS 37500
Course Title: Multimedia Networking
Course Credit Hours: 3

Prerequisites: CS 27400

Course Description:
This course is a survey of multimedia networks. Topics include multimedia information representation, text and image compression, audio and video compression, multimedia networking.

Course Learning Outcomes:
Upon successful completion of the course requirements, a student should be able to:
1. Understand multimedia network architecture, protocols, and design principles (a, e)
2. Present text, image, audio, and video in digital format (a, e)
3. Compress text, image, audio and video (a, e)
4. Implement a stream video server and client (c, k)

Topics Covered:

Topic 1: Multimedia networking (3 weeks)
Topic 2: Introduction to multimedia communications (3 weeks)
Topic 3: Multimedia information representation (3 weeks)
Topic 4: Text and image compression (3 weeks)
Topic 5: Audio and video compression (3 weeks)

Text:
Multimedia Communications
Fred Halsall
Addison-Wesley
ISBN: 0-201-39818-4

Grading/Evaluation:

30 % Midterm,
30 % Final Exam,
30 % Homework,
10 % Programming Project
In general: A: 90-100%, B: 80-89%, C: 70-79%, D: 60-69%, F: < 60%

Note to Students with Disabilities:

If you have a disability and need assistance, special arrangements can be made to accommodate most needs. Contact the Office for Services for Students with Disabilities (SSD). They are located in Walb Student Union, room 113, telephone number 481-6658, as soon as possible to work out the details. Once the Director has provided you with a letter attesting to your needs for modification, bring the letter to me. For more information, please visit the web site for SSD at http://www.ipfw.edu/ssd/.

Note for Free Personal Counseling Services:

IPFW and the Department of Computer Science recognize that personal problems can sometimes interfere with a student’s ability to progress in his/her academic program. To help students address such problems IPFW makes free personal counseling services available in Walb 210. To schedule an appointment with an IPFW/PARKVIEW Student Assistance Program (SAP) counselor call 373-8060.

Course Evaluation Surveys
(Student Evaluation of Instruction and Course Learning Outcomes Assessment surveys)

Course evaluation is an important component of the Computer Science Department’s assessment plan. Data gathered from assessment surveys helps us to evaluate and improve course content and delivery. To ensure that these data reflect the experiences of all students, your participation is required in both the Student Evaluation of Instruction and the Course Learning Outcomes Assessment surveys. These surveys are distributed online via the Purdue Qualtrics system and each takes 2-5 minutes to complete. Approximately two weeks prior to the end of the semester you will receive a link to each survey via your IPFW email account. These surveys are anonymous and no results will be released to the instructor until after the end of the semester. The CS Department expects that you complete both surveys before the final exam date. If you have any difficulties accessing a survey, you should immediately notify the instructor or the CS Department Secretary (davepol@ipfw.edu, 260-481-6803).

Policies:
1. All work must be written individually. Discussions with others are allowed. However, copying solutions from others are prohibited.
2. Homework and projects are due in class on due date. Late submission is not accepted.
3. Make-ups and incompletes will be given only in extreme circumstances. To schedule a make-up exam, you must contact the instructor one week prior to the date and time of the exam.

Other Learning Resources:

1. Classmates and students who have taken a similar course before
2. Tutors from CASA (http://www.ipfw.edu/casa) at KT G21
3. web-site with relevant information on similar courses
4. General information for students from the Dean of Students (http://www.ipfw.edu/doc)

Academic Integrity: All submitted work must be your own contribution and nobody else's! Please See ACM's Code of Ethics and Professional Conduct for standards of ethical conduct.

ABET Program Learning Outcomes

(a) An ability to apply knowledge of computing and mathematics appropriate to the program’s student outcomes and to the discipline
(b) An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution
(c) An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs
(d) An ability to function effectively on teams to accomplish a common goal
(e) An understanding of professional, ethical, legal, security and social issues and responsibilities
(f) An ability to communicate effectively with a range of audiences
(g) An ability to analyze the local and global impact of computing on individuals, organizations, and society
(h) Recognition of the need for and an ability to engage in continuing professional development
(i) An ability to use current techniques, skills, and tools necessary for computing practice
(j) An ability to apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the tradeoffs involved in design choices
(k) An ability to apply design and development principles in the construction of software systems of varying complexity
# B.S. Computer Science (2015 - 2016) Degree Requirements (120 cr. Hrs.)

<table>
<thead>
<tr>
<th>Name</th>
<th>Advisor</th>
<th>Date of Birth</th>
<th>Student ID</th>
<th>Personal Email</th>
<th>Home/Cell</th>
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## CS Core (39 cr. hrs.)

<table>
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<th>Code</th>
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<th>Grade</th>
<th>Semester</th>
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<tr>
<td>CS 160</td>
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<td>CS 161</td>
<td>P: CS 160 C: MA 175</td>
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<tr>
<td>CS 232</td>
<td>P: CS 161</td>
<td>3</td>
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<tr>
<td>CS 260</td>
<td>P: CS 181, MA 175</td>
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<tr>
<td>CS 271</td>
<td>P: CS 161, MA 175</td>
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<tr>
<td>CS 274</td>
<td>P: CS 260</td>
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<tr>
<td>CS 350</td>
<td>P: CS 260, CS 271 or</td>
<td>3</td>
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<tr>
<td>CS 321</td>
<td>P: CS 260</td>
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<tr>
<td>CS 360</td>
<td>P: CS 260, ENG W234</td>
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<tr>
<td>CS 364</td>
<td>P: CS 260</td>
<td>3</td>
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<tr>
<td>CS 460</td>
<td>P: CS 360, Senior Standing</td>
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<tr>
<td>CS 472</td>
<td>P: CS 260, CS 271</td>
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<tr>
<td>CS 486</td>
<td>P: CS 260, MA 166</td>
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## Gen Ed (33 cr. hrs.)

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<tr>
<td>ENG W131</td>
<td>P: ENG W130 or placement</td>
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<tr>
<td>ENG W234</td>
<td>P: ENG W131</td>
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<td>COM 114</td>
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<tr>
<td>MA 165</td>
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<td>Capstone [9]</td>
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<td>Social/Behavioral Ways [6]</td>
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<td>Humanistic/Artistic Ways [7]</td>
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<td>Creative/Multidisciplinary Ways [8]</td>
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## Supporting Courses

<table>
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<th>Semester</th>
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<tbody>
<tr>
<td>MA 166</td>
<td>P: MA 165, C or better</td>
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<tr>
<td>MA 175</td>
<td>C: CS 161</td>
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<tr>
<td>MA 351/511</td>
<td>P: MA 165, MA 166</td>
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<td>STAT 511</td>
<td>P: MA 165, MA 166</td>
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<td>Advanced Communication [10]</td>
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<tr>
<td>Lab Science II</td>
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<td>Science Elective [4]</td>
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## Concentration Area (15 cr. hrs.)

### Software Engineering [2]

<table>
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<td>CS 331</td>
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<tr>
<td>CS 368</td>
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<td>CS 465</td>
<td>P: CS 460</td>
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<tr>
<td>CS 467</td>
<td>P: ENG W234, Senior Standing</td>
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### Network Computing

<table>
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<tr>
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<th>Semester</th>
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<tbody>
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<td>CS 372</td>
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<tr>
<td>CS 374</td>
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<td>CS 375</td>
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<tr>
<td>CS 445</td>
<td>P: CS 260</td>
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<td>CS 465</td>
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<td>CS 375</td>
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### Informatics

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<tr>
<td>CS 321</td>
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### Theoretical Foundations

<table>
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<tbody>
<tr>
<td>CS 384</td>
<td>P: CS 160, MA 166 [1/3]</td>
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<td>CS 465</td>
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<td>CS 474</td>
<td>P: CS 350</td>
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<td>CS 488</td>
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## Approved Electives [11]

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<th>Course</th>
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## Preparation [1]

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<th>Semester</th>
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See reverse for additional degree requirements and footnotes.