

Eastern Illinois University
NEW/REVISED COURSE PROPOSAL FORMAT
(Approved by CAA on 9/29/11 and CGS on 10/18/11, Effective Fall 2011)

This format is to be used for all courses submitted to the Council on Academic Affairs and/or the Council on Graduate Studies.

Please check one: ☒ New course ☐ Revised course

PART I: CATALOG DESCRIPTION

1. Course prefix and number, such as ART 1000: TEC 5393
2. Title (may not exceed 30 characters, including spaces): Mobile App Development
3. Long title, if any (may not exceed 100 characters, including spaces):
4. Class hours per week, lab hours per week, and credit [e.g., (3-0-3)]: 3-0-3
5. Term(s) to be offered: ☐ Fall ☐ Spring ☐ Summer ☒ On demand
6. Initial term of offering: ☐ Fall ☐ Spring ☒ Summer Year: 2014
7. Course description: This course will prepare students to develop applications for mobile devices. Students will evaluate various constraints facing mobile application developers and study how to address these constraints with techniques in software design, user interface design, and implementation. In addition, students will develop important components of modern mobile computing, such as multimedia, Internet access, data distribution, and location awareness.
8. Registration restrictions:
 - a. Equivalent Courses
 - Identify any equivalent courses (e.g., cross-listed course, non-honors version of an honors course). None
 - Indicate whether coding should be added to Banner to restrict students from registering for the equivalent course(s) of this course. ☐ Yes ☒ No
 - b. Prerequisite(s)
 - Identify the prerequisite(s), including required test scores, courses, grades in courses, and technical skills. Indicate whether any prerequisite course(s) MAY be taken concurrently with the proposed/revised course.

TEC 5373 Java Application in Technology, or waived by the instructor. Students cannot take two courses concurrently unless approved by the Chair.
 - Indicate whether coding should be added to Banner to prevent students from registering for this course if they haven't successfully completed the prerequisite course(s). ☐ Yes ☒ No

If yes, identify the minimum grade requirement and any equivalent courses for each prerequisite course:
 - c. Who can waive the prerequisite(s)?
☐ No one ☒ Chair ☐ Instructor ☐ Advisor ☐ Other (Please specify)
 - d. Co-requisites (course(s) which MUST be taken concurrently with this one):
None

e. **Repeat status:** ☒ Course may not be repeated.

☐ Course may be repeated once with credit.

Please also specify the limit (if any) on hours which may be applied to a major or minor.

f. **Degree, college, major(s), level, or class** to which registration in the course is restricted, if any:

None

g. **Degree, college, major(s), level, or class** to be excluded from the course, if any:

None

9. **Special course attributes** [cultural diversity, general education (indicate component), honors, remedial, writing centered or writing intensive]

None

10. **Grading methods** (check all that apply): ☒ Standard letter ☐ CR/NC ☐ Audit ☐ ABC/NC
("Standard letter"—i.e., ABCDF—is assumed to be the default grading method unless the course description indicates otherwise.)

Please check any special grading provision that applies to this course:

☐ The grade for this course will not count in a student's grade point average.

☐ The credit for this course will not count in hours towards graduation.

If the student already has credit for or is registered in an equivalent or mutually exclusive course, check any that apply:

☐ The grade for this course will be removed from the student's grade point average if he/she already has credit for or is registered in _____ (insert course prefix and number).

☐ Credit hours for this course will be removed from a student's hours towards graduation if he/she already has credit for or is registered in _____ (insert course prefix and number).

11. **Instructional delivery method:** (Check all that apply.)

☒ lecture ☐ lab ☐ lecture/lab combined ☐ independent study/research

☐ internship ☐ performance ☐ practicum or clinical ☐ study abroad

☒ Internet ☒ hybrid ☐ other (Please specify)

PART II: ASSURANCE OF STUDENT LEARNING

1. **List the student learning objectives of this course:**

a. **If this is a general education course, indicate which objectives are designed to help students achieve one or more of the following goals of general education and university-wide assessment:**

- EIU graduates will write and speak effectively.
- EIU graduates will think critically.

- **EIU graduates will function as responsible citizens.**

Not a general education course.

- b. If this is a graduate-level course, indicate which objectives are designed to help students achieve established goals for learning at the graduate level:**

- **Depth of content knowledge**
- **Effective critical thinking and problem solving**
- **Effective oral and written communication**
- **Advanced scholarship through research or creative activity**

- (1) Describe concepts and techniques of application development for mobile devices.
- (2) Explain concepts of Android phone features and capabilities.
- (3) Demonstrate the use the SDK and other development tools.
- (4) Apply Java programming for application development on Android platform.
- (5) Develop mobile applications with SQLite database features.
- (6) Create applications using Android phone services and features.
- (7) Evaluate resources and security information needed for various types of Android applications.
- (8) Publish Android applications to Android market.
- (9) Conduct research on mobile technologies.

The following table explains how the course objectives help students achieve graduate level learning goals:

Graduate Level Learning Goals	Course Objectives
Depth of content knowledge	(2), (3), (4), (5), (6), (7), (8), (9)
Effective critical thinking and problem solving	(4), (5), (6), (7), (8)
Effective oral and written communication	(1), (2), (3), (8), (9)
Advanced scholarship through research or creative activity	(7), (8), (9)

- 2. Identify the assignments/activities the instructor will use to determine how well students attained the learning objectives:**

Quizzes, hands-on activities, individual and team projects, midterm, and final exam/research.

- 3. Explain how the instructor will determine students' grades for the course:**

Objective	Quizzes 10%	Activities 30%	Projects 30%	Midterm 15%	Final 15%
1	X			X	
2	X			X	
3	X	X	X	X	
4	X	X	X	X	X
5	X	X	X		X
6	X	X	X		X
7	X	X	X		X
8	X	X	X		X
9			X		X

4. For technology-delivered and other nontraditional-delivered courses/sections, address the following:
 - a. Describe how the format/technology will be used to support and assess students' achievement of the specified learning objectives:
 - b. Describe how the integrity of student work will be assured:
 - c. Describe provisions for and requirements of instructor-student and student-student interaction, including the kinds of technologies that will be used to support the interaction (e.g., e-mail, web-based discussions, computer conferences, etc.):

This course can be offered in both traditional-delivered and technology-delivered settings. When being offered as a technology-delivered course,

- a. The course will be delivered in an on-line Learning Management System (LMS). Learning materials, discussions, assignments, and grading will all be placed on the LMS.
- b. Instructor verbally interviews students and asks questions about assignments to ensure their integrity. Tests may use a face-to-face format or use web conferencing software (virtual classroom with audio/video and white board support).
- c. Class interactions will use a combination of email, on-line discussion, web conferencing, and social networks.

5. For courses numbered 4750-4999, specify additional or more stringent requirements for students enrolling for graduate credit. These include:
 - a. course objectives;
 - b. projects that require application and analysis of the course content; and
 - c. separate methods of evaluation for undergraduate and graduate students.

N/A

6. If applicable, indicate whether this course is writing-active, writing-intensive, or writing-centered, and describe how the course satisfies the criteria for the type of writing course identified. (See Appendix *.)

N/A

PART III: OUTLINE OF THE COURSE

Provide a week-by-week outline of the course's content. Specify units of time (e.g., for a 3-0-3 course, 45 fifty-minute class periods over 15 weeks) for each major topic in the outline. Provide clear and sufficient details about content and procedures so that possible questions of overlap with other courses can be addressed. For technology-delivered or other nontraditional-delivered courses/sections, explain how the course content "units" are sufficiently equivalent to the traditional on-campus semester hour units of time described above.

Topics	Weeks	Hours
Key Concepts	1	3
Quick Start	1	2
Designing the User Interface	2	5
Exploring 2D Graphics	2	5
Multimedia	1	3
Storing Local Data	1	2

The Connected World	1	3
Locating and Sensing	1	3
Putting SQL to Work	1	3
3D Graphics in OpenGL	2	5
Multi-touch	1	2
Publishing to the Android Market	1	2
Total	15	38

PART IV: PURPOSE AND NEED

1. Explain the department's rationale for developing and proposing the course.

- a. If this is a general education course, you also must indicate the segment of the general education program into which it will be placed, and describe how the course meets the requirements of that segment.**
- b. If the course or some sections of the course may be technology delivered, explain why.**

Mobile technologies are fueling economic growth, transforming industries, and are redefining the way we live. According to the International Data Corporation (IDC), vendors shipped a total of 236.4 million smartphones in the second quarter of 2013. Android devices count for about 70% of operating systems (OS) for mobile devices.

Whether students are hobbyists or want to be programmers, whether they are doing mobile development for fun or for profit, they will all benefit from learning Android development. Our students are in an era of mobile applications. They have a strong interest in mobile computing and in implementing their ideas on mobile devices. To satisfy the needs of technology students and to better prepare them for the future mobile world, we developed an Android programming course.

The purpose of this new course is to teach graduate students in School of Technology how to develop mobile applications on Android devices. This course reviews mobile technologies and Android platform. It explains Android development setup, which requires Java development kit, Eclipse integrated development environment, Android software development kit, and a plug-in for Eclipse called the Android Development Toolkit (ADT). Students will learn how to develop a number of components such as user interface, 2D and 3D graphics, multimedia, Internet, and SQL.

One fundamental mission of EIU is to provide an accessible education. The School of Technology constantly enrolls a considerable number of nontraditional students, such as working professionals, distant residents, and international learners. This course can be technology delivered to that population, who otherwise couldn't access the course or would look for alternative higher education institutions.

The contents of this course are naturally suitable for technology delivery. Teaching materials are in forms of presentation slides, word document, web pages, and online resources. Student work is in digital formats such as source code, resource files, and word documents. In addition to email and online discussion, class interaction will go through web conferencing software in real time.

2. Justify the level of the course and any course prerequisites, co-requisites, or registration restrictions.

This graduate level course is suitable for students who plan to develop Android mobile applications. It will provide graduate students with in-depth knowledge and skills to effectively develop various Android components. Students will not only review Mobile and Android literature, but also actively participate in mobile development laboratories and Java programming practices. Furthermore, students will study and research issues in mobile database, 3D graphics, multi-touch, and publishing to the Android market.

3. **If the course is similar to an existing course or courses, justify its development and offering.**
 - a. **If the contents substantially duplicate those of an existing course, the new proposal should be discussed with the appropriate chairpersons, deans, or curriculum committees and their responses noted in the proposal.**
 - b. **Cite course(s) to be deleted if the new course is approved. If no deletions are planned, note the exceptional need to be met or the curricular gap to be filled.**

No similar graduate courses exist.

4. **Impact on Program(s):**
 - a. **For undergraduate programs, specify whether this course will be required for a major or minor or used as an approved elective.**
 - b. **For graduate programs, specify whether this course will be a core requirement for all candidates in a degree or certificate program or an approved elective.**

If the proposed course changes a major, minor, or certificate program in or outside of the department, you must submit a separate proposal requesting that change along with the course proposal. Provide a copy of the existing program in the current catalog with the requested changes noted.

This course will enhance the current graduate curriculum, but it is not intended to be a core requirement.

PART V: IMPLEMENTATION

1. **Faculty member(s) to whom the course may be assigned:**

If this is a graduate course and the department does not currently offer a graduate program, it must document that it employs faculty qualified to teach graduate courses.

Dr. Rendong Bai or other qualified graduate faculty members.

2. **Additional costs to students:**

Include those for supplemental packets, hardware/software, or any other additional instructional, technical, or technological requirements. (Course fees must be approved by the President's Council.)

None

3. **Text and supplementary materials to be used (Include publication dates):**

Hello, Android: Introducing Google's Mobile Development Platform, 3rd Ed., Ed Burnette, Pragmatic Programmers, 2010

Online resources such as <http://developer.android.com>.

PART VI: COMMUNITY COLLEGE TRANSFER

If the proposed course is a 1000- or 2000-level course, state either, "A community college course may be judged equivalent to this course" OR "A community college course will not be judged equivalent to this course." A community college course will not be judged equivalent to a 3000- or 4000-level course but may be accepted as a substitute; however, upper-division credit will not be awarded.

PART VII: APPROVALS

Date approved by the department or school: November 7th, 2013

Date approved by the college curriculum committee: January 27th, 2014

Date approved by the Honors Council (*if this is an honors course*):

Date approved by CAA: CGS:

*In **writing-active courses**, frequent, brief writing activities and assignments are required. Such activities -- some of which are to be graded -- might include five-minute in-class writing assignments, journal keeping, lab reports, essay examinations, short papers, longer papers, or a variety of other writing-to-learn activities of the instructor's invention. Writing assignments and activities in writing-active courses are designed primarily to assist students in mastering course content, secondarily to strengthen students' writing skills. In **writing-intensive courses**, several writing assignments and writing activities are required. These assignments and activities, which are to be spread over the course of the semester, serve the dual purpose of strengthening writing skills and deepening understanding of course content. At least one writing assignment is to be revised by the student after it has been read and commented on by the instructor. In writing-intensive courses, students' writing should constitute no less than 35% of the final course grade. In **writing-centered courses** (English 1001G, English 1002G, and their honors equivalents), students learn the principles and the process of writing in all of its stages, from inception to completion. The quality of students' writing is the principal determinant of the course grade. The minimum writing requirement is 20 pages (5,000 words).

Student
Success
Center

<http://www.eiu.edu/~success/>

581-6696



<http://www.eiu.edu/~counsctr/>

581-3413

Career
Services

<http://www.eiu.edu/~careers/>

581-2412

Disability
Services

<http://www.eiu.edu/~disabltv/>

581-6583