

1/28/2016 DATE
 _____ REQUIRED COURSE
 _____ X _____ ELECTIVE COURSE

Business DIVISION
 _____ NEW COURSE
 _____ X _____ REVISION

LAKE LAND COLLEGE
Course Information Form

COURSE NUMBER ITT 064 **TITLE** Innovation II
SEM CR HRS 3 **LT HRS** 0 **LAB HRS** 6 **SOE HRS** _____ **ECH** _____
COURSE PCS # _____ (Assigned by Administration)

PREREQUISITES: Innovation I or instructor consent

Catalog Description (40 Word Limit): This practical, lab-based course concentrates on the design, development, and implementation of physical and electronic computer interfaces. The goal is to extend the reality of computer use and/or game play using both currently available and custom hardware and software.

List the Major Course Segments (Units)	Contact Lt Hrs	Contact Lab Hrs
Initial research of possible projects		4
Selection of teams and creation of project criteria		2
Development of project goals and timeline		5
Project development		68
Project testing		4
Documentation		4
Presentation of projects		3

EVALUATION: **Quizzes** _____ **Exams** _____ **Oral Pres.** X **Papers** X
Lab Work X **Projects** X **Comp Final** _____ **Other** _____

eBook Textbook Library:

Adventures In Raspberry Pi, Philbin, 2014

All New Electronics Self Teaching Guide, Kybett & Boysen, 2008

Arduino for Dummies, Nussey, 2013

Arduino Workshop : A Hands-On Introduction with 65 Projects, Boxall, 2013

C Programming for Arduino, Bayle, 2013

Exploring Arduino : Tools and Techniques for Engineering Wizardry, Blum, 2013

Fabricated : The New World of 3D Printing, Lipson & Kurman, 2013

Instant OpenCV Starter, Dalal & Patel, 2013

Kinect for Windows SDK Programming Guide, Jana, 2012

Learning Python with Raspberry Pi, Bradbury & Everard, 2014

Mastering OpenCV with Practical Computer Vision Projects, Baggio & Emami, 2012

OpenCV Computer Vision with Python, Howse, 2013

Practical Interfacing in the Laboratory : Using a PC for Instrumentation, Data Analysis and Control, Derenzo, 2003

Raspberry Pi for Secret Agents, Sjogelid, 2013

Raspberry Pi Home Automation with Arduino, Dennis, 2013

Raspberry Pi Media Center, Nazarko, 2013

Raspberry Pi Networking Cookbook, Golden, 2013

Raspberry Pi Projects, Robinson & Cook, 2013

Raspberry Pi User Guide (2nd Edition), Upton & Halfacree, 2013

Teach Yourself VISUALLY Raspberry Pi, Wentk, 2014

Major Course Segment	Hours	Learning Outcomes
Initial research of possible projects	4	<p>The student will be able to:</p> <p>Identify potential innovative projects and cite pros and cons for each.</p>
Selection of teams and creation of project criteria	2	Justify both the team member selections and the defined focus of the chosen project.
Development of project goals and timeline	5	Clearly define the specific goals of the project and plan a reasonable timeline that will be followed throughout the project.
Project development	68	Work iteratively on the development of the project with fellow team members remembering to adjust goals and timeline based on day-to-day progress.
Project testing	4	Evaluate the successes and failures of both the project as a whole but also its stated goals, predefined timeline, and the individual members of the team.
Documentation	4	Clearly and completely record the project details including the initial goals, progress throughout the project, and the reactions of the group at completion.
Presentation of projects	3	Explain and present the project, demonstrate the benefits and uniqueness of the project, and defend against the criticisms of the larger group.

Course Outcomes: At the successful completion of this course, students will be able to:

- Develop an individual interface project concept.
- Create the project using the required materials.
- Present the project details at completion.