Computer and Information Sciences
Department of Information Technology
IT 211- HCI and visual programming

1. **Course number and name:** IT 211 – Human Computer Interaction and Visual Programming.

2. **Credits and contact hours:** 3 Cr – 2 hours lecture and 2 hours lab

3. **Instructor's or course coordinator's name: Dr. Duaa alSaeed**

4. **Text book, title, author and year:**

   Primary:
   - Human-Computer Interaction, Alan Dix, Janet Finlay, 3rd Edition 2004
   - C# illuminated, Arthur Gittleman, California State University, Long Beach, California (2005).

   Other supplementary materials:
   - Interaction Design: Beyond Human Computer Interaction, by Y. Rogers, H. Sharp, J. Preece, 2nd Edition, Wiley 2007.

5. **Specific course information**

   a) **Brief description of the content of the course (Catalogue Description):**

   This course provides an introduction to the field of Human-Computer Interaction (HCI) and an overview of software architectures used in modern graphical user interfaces. A variety of analysis and design methods are introduced (e.g. GOMS, heuristic evaluation, User-Centered Design and contextual design techniques).

   Visual programming topics include file manipulation, related data structures; exception handling and Graphical User Interfaces (event handling and models), and windows applications. Evaluations of user interfaces according to usability and accessibility standards will be covered. Throughout the course, the quality of design and the need for a professional and user-centered approach to interface development is emphasized.

   b) **Prerequisites or co-requisites:** 113 CSC

   c) **Indicate whether a required, elective, or selected elective course in the program:** Required

6. **Specific goals for the course**

   a) **Specific outcomes of instruction.**
   - Students will be able to describe and apply theoretical concepts for analyzing observed problems in interfaces, models and frameworks from the field of HCI.[P]
   - Students will be able to describe and apply the interaction design process that supports the usability.[P]

- Students will be able to describe and apply the evaluation techniques in the field of HCI and the principles of universal design.[P]
- Students will be able to analyze the problems related to the usability principles and justify the appropriate computing requirements.[b]
- Students will be able to design and implement useful, used and usable project components in a visual development environment (C#, .NET).[c]
- Students will be able to design a real world computer-based product to meet the desired user needs and judge a product regarding some types of evaluation techniques.[k]
- Students will be able to develop useful, usable and used integrated project using the .NET environment.[L]

b) **Explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course.**

#	Student Outcome addressed by the course	% of coverage
(P)	Describe knowledge of fundamentals of IT (e.g. programming, networking, databases, web systems, system integration and architecture) ;	45%
(b)	Analyse a problem, and identify the computing requirements appropriate to its solution ;	15%
(c)	Design, implement and evaluate a computer-based system, process, component, or program to meet desired needs ;	24%
(k)	Identify and analyse user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems ;	15%
(L)	Integrate effectively IT-based solutions into the user environment ;	1%

7. **Brief list of topics to be covered**

Topics	#Weeks
Introduction to .NET Framework.	1
Foundation of HCI (Human abilities , computer)	1
Interaction (Norman's model, Abowd and Beale framework , Ergonomics , interaction styles)	2
Interaction Design basics.	3
Design rules.	3
Methods for evaluating user interfaces.	3
Universal Design.	2
Total	15