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| Syrian Arab Republic |  الجامعة الافتراضية السورية SYRIAN VIRTUAL UNIVERSITY | الجمهورية العربية السورية |
| Ministry of Higher Education | | وزارة التعليم العالي |
| Syrian Virtual University | | الجامعة الافتراضية السورية |

Course Definition Form

“Introduction to wireless systems”

1- Basic Information:

| | |
|---------------------------------------|----------------------------------|
| Course Name | Introduction to wireless systems |
| Course ID | CCS401 |
| Contact Hours (Registered Sessions) | 30 |
| Contact Hours (Synchronized Sessions) | 18 |
| Mid Term Exam | |
| Exam | 1.5 |
| Registered Sessions Work Load | 30 |
| Synchronized Session Work Load | 18 |
| Credit Hours | 5 |

2- Pre-Requisites:

| Course | ID |
|--|--------|
| Electromagnetic Waves and transmission Lines | CRF301 |
| English Level 3 | Eng3 |

3- Course General Objectives:

This course aims to enable students to have very good knowledge about wireless communications especially the history of its progress and the great relations between it with every details of humanity life and activities. Understanding the great effects of wireless communications in economy and employment worldwide showing the great ratio of wireless communications development especially in the last twenty years. Demonstrating the most important services wireless communications offering and applications depend on and cover population needs nowadays.

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4- Intended Learning Outcomes (ILO):

| Code | Intended Learning Outcomes |
|------|--|
| ILO1 | Recognizing Licensed and unlicensed frequencies |
| ILO2 | Recognizing Radio systems and their infrastructure |
| ILO3 | Recognizing Market of wireless communications and importance of wireless communications in economy |
| ILO4 | Recognizing General wireless services offered for human being |
| ILO5 | Recognizing Radio communication systems and their applications |
| ILO6 | Describing the history of wireless communications and its impact on economy and employment |

5- Course Syllabus (18 hours of total synchronized sessions)

- **RS:** Recorded Sessions; **SS:** Synchronized Sessions;

| ILO | Course Syllabus | RS | SS | Type | Additional Notes |
|--------------|---|----|----|--|------------------|
| ILO3 ILO6 | Introduction: 1- History of wireless communications. 2- Importance of wireless communications. 3- The Impact of wireless Technologies on economy. 4- The Impact of wireless Technologies on Employment. | 5 | 3 | <input checked="" type="checkbox"/> Exercises <input type="checkbox"/> Assignments <input type="checkbox"/> Seminars <input type="checkbox"/> Projects <input type="checkbox"/> Practices <input type="checkbox"/> Others | |
| ILO1 | Radio frequencies: 1- Radio spectrum. 2- Frequencies used in wireless communications. 3- Licensed & unlicensed radio frequencies. 4- Mechanism of radio frequencies licensing. 5- Radio channels & bandwidth | 5 | 3 | <input checked="" type="checkbox"/> Exercises <input type="checkbox"/> Assignments <input type="checkbox"/> Seminars <input type="checkbox"/> Projects <input type="checkbox"/> Practices <input type="checkbox"/> Others | |

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| ILO2 | Radio systems: 1- Radio system devices. 2- Towers of radio communication systems. 3- Radio communication networks. | 5 | 3 | <input checked="" type="checkbox"/> Exercises <input type="checkbox"/> Assignments <input type="checkbox"/> Seminars <input type="checkbox"/> Projects <input type="checkbox"/> Practices <input type="checkbox"/> Others | |
| ILO3 | Market of radio communications: 1- The market profile 2- The driving forces that shape the market. 3- Future trends in the wireless market. | 5 | 3 | <input checked="" type="checkbox"/> Exercises <input type="checkbox"/> Assignments <input type="checkbox"/> Seminars <input type="checkbox"/> Projects <input type="checkbox"/> Practices <input type="checkbox"/> Others | |
| ILO5 | Wireless communications technologies: 1- Infrared (IR) Wireless Communication Technology. 2- Broadcast Radio Technology. 3- Microwave Radio Technology. 4- Satellites Communication Technology. 5- Wireless Networking Technology. 6- Ultra Wide Band (UWB) Technology. 7- Bluetooth Technology. 8- ZigBee Technology. | 5 | 3 | <input checked="" type="checkbox"/> Exercises <input type="checkbox"/> Assignments <input type="checkbox"/> Seminars <input type="checkbox"/> Projects <input type="checkbox"/> Practices <input type="checkbox"/> Others | |

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| ILO4 | Wireless communications services: 1- Wireless Voice Communication Service. 2- Paging Services. 3- Mobile Data Services. 4- Satellite Services. 5- Wireless Home services. 6- Broadband Wireless Access service. 7- Wireless Broadcast Services. 8- Wireless Commercial Application Services. | 5 | 3 | <input checked="" type="checkbox"/> Exercises <input type="checkbox"/> Assignments <input type="checkbox"/> Seminars <input type="checkbox"/> Projects <input type="checkbox"/> Practices <input type="checkbox"/> Others | |
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6- Assessment Criteria (Related to ILOs)

| | | | | | |
|------|--|----|---------------|-----|---------|
| ISC | Interactive Synchronized Collaboration | Ex | Exams | Rpt | Reports |
| PF2F | Presentations and Face-to-Face Assessments | PW | Practice Work | | |

| ILO Code | ILO | Intended Results | Assessment Type | | | | |
|----------|--|------------------|-----------------|----|----|------|-----|
| | | | ISC | PW | Ex | PF2F | Rpt |
| ILO1 | Licensed and unlicensed frequencies | | X | | X | X | X |
| ILO2 | Radio systems and their infrastructure | | X | | X | X | X |
| ILO3 | Market of wireless communications and importance of wireless communications in economy | | X | | X | X | X |
| ILO4 | General wireless services offered for human being | | X | | X | X | X |
| ILO5 | Radio communication systems and their applications | | X | | X | X | X |
| ILO6 | History of wireless communications and its impact on economy and employment | | X | | X | X | X |

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7- Practice Tools:

| Tool Name | Description |
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8- Main References

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| The Increasingly Important Impact of Wireless Broadband Technology and services on the U.S. Economy. |
| Wireless Market Overview: Trends and Challenges. |
| The economic benefits of new spectrum for wireless broadband. |
| The impact of regulation on innovation and choice in wireless communications EVERETT M. EHRLICH, JEFFREY A. EISENACH, WAYNE A. LEIGHTON |
| An Introduction to Wireless Technology IBM International Technical Support Organization. |
| Federal institute of science and technology (FISAT) History of wireless communication. |
| Importance of Radio Regulation Policies in Wireless Communications Study Dr. Reza Kamali, Utah Valley University |
| Socioeconomic Impacts of Wireless Technology A Review of Opportunities and Challenges in Health Care, Finance, Education and Community Empowerment |
| The Employment Effects of Advances in Internet and Wireless Technology: Evaluating the Transitions from 2G to 3G and from 3G to 4G Robert J. Shapiro and Kevin A. Hassett |

9- Additional References

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| WIKIPEDIA |
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