|  |  |
| --- | --- |
| **Course Title:** | **History of Astronomy** |
| **Course Code:** | **ASTR 203** |
| **Program:** | **ASTR-MATH** |
| **Department:** | **Astronomy** |
| **College:** | **Science** |
| **Institution:** | **King AbdulAziz University** |

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# A. Course Identification

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **1. Credit hours:** | | | |  | | | | | | | | | | | | |
| **2. Course type** | | | | | | | | | | | | | | | | |
| **a.** | University | |  | | College | | |  | Department | | | | **✓** | Others |  |  |
| **b.** | | Required | | | |  | Elective | | | **✓** |  | | | | | |
| **3. Level/year at which this course is offered:** | | | | | | | | | | | | **Start from 2nd year – Level 3** | | | | |
| **4. Pre-requisites for this course** (if any)**: None** | | | | | | | | | | | | | | | | |
| **5. Co-requisites for this course** (if any)**: None** | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | |

## 6. Mode of Instruction (mark all that apply)

| **No** | **Mode of Instruction** | **Contact Hours** | **Percentage** |
| --- | --- | --- | --- |
| **1** | **Traditional classroom** | **3** | **100%** |
| **2** | **Blended** |  |  |
| **3** | **E-learning** |  |  |
| **4** | **Correspondence** |  |  |
| **5** | **Other** |  |  |

**7. Actual Learning Hours** (based on academic semester)

|  |  |  |
| --- | --- | --- |
| **No** | **Activity** | **Learning Hours** |
| **Contact Hours** | | |
| **1** | **Lecture** | **45** |
| **2** | **Laboratory/Studio** |  |
| **3** | **Tutorial** |  |
| **4** | **Others** (specify) |  |
|  | **Total** | **45** |
| **Other Learning Hours\*** | | |
| **1** | **Study** | **45 (minimum)** |
| **2** | **Assignments** |  |
| **3** | **Library** | **15** |
| **4** | **Projects/Research Essays/Theses** |  |
| **5** | **Others** (Report) | **30** |
|  | **Total** | **90** |

**\*** The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

# B. Course Objectives and Learning Outcomes

|  |
| --- |
| 1. Course Description The general idea of this course is about the celestial movements – Astronomy in the Pharaonic era – Chinese astronomy – Papillion astronomy – Greek astronomy – Arabic and Islamic astronomy – The contribution the Islamic civilization in the field of astronomy. |
| 2. Course Main Objective  1. Shed light about the role played by ancient astronomy in shaping our knowledge of astronomy today. 2. Highlight the contribution of the Arab and Muslim Scholars in the development of Astronomy. 3. Developing student's motivation of general reading in the field of astronomy. |
|  |

## 

## 3. Course Learning Outcomes

| **CLOs** | | **Aligned****PLOs** |
| --- | --- | --- |
| 1 | **Knowledge:** |  |
| 1.1 | Mention the main contributions of Pharaonic era in astronomy | K7 |
| 1.2 | List the observational tools used by the ancient Arabs in astronomy. | K7 |
| 1.3 | List the most important achievements of Islamic and Babylonian astronomers | K7 |
| 1.4 | Describe the Copernicus's heliocentric model for solar system. | K3, K4, K9 |
| 1.5 | Recognize the contributions of Indians and Chinese in astronomy. | K7 |
| **2** | **Skills :** |  |
| 2.1 | Compare between the achievements of Islamic and non-Islamic astronomers | S7 |
| 2.2 | Compare between the Copernicus's heliocentric and Ptolemaic geocentric models | S1, S7 |
| 2.3 | Write a report on the achievements of one of Islamic astronomers. | S12, S13 |
| **3** | **Competence:** |  |
| 3.1 | Work in a laboratory group. | C1 |

**C. Course Content**

|  |  |  |
| --- | --- | --- |
| **No** | **List of Topics** | **Contact Hours** |
| 1 | Lecture Unit 1: Ancient None Islamic Astronomy  Chapter One: Introduction, Astronomy in the Pharaonic era, Chinese astronomy | 8 |
| 2 | Lecture Unit 1: Ancient None Islamic Astronomy  Chapter Two: Papillion astronomy, Greek astronomy | 8 |
| 3 | Lecture Unit 2: Ancient Arabic and Islamic Astronomy  Chapter One: Introduction, Contributions of ancient Arabs in astronomy, Names of known scholars, Achievements. | 8 |
| 4 | Lecture Unit 2: Ancient Arabic and Islamic Astronomy  Chapter Two: Introduction to Ancient Islamic Astronomy | 8 |
| 5 | Lecture Unit 2: Ancient Arabic and Islamic Astronomy  Chapter Three: Astronomical Observatories in Islamic | 8 |
| 6 | Lecture Unit 2: Ancient Arabic and Islamic Astronomy  Chapter Four: Islamic Astronomy Scholars, Most Important Achievements of Islamic Astronomers, Islamic Astronomy Instruments. | 5 |
| **Total** | | **45** |

# 

# D. Teaching and Assessment

## 1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

| **Code** | **Course Learning Outcomes** | **Teaching Strategies** | **Assessment Methods** |
| --- | --- | --- | --- |
| **1.0** | **Knowledge** | | |
| 1.1 | Mention the main contributions of Pharaonic era in astronomy | In class lecturing | Exams |
| 1.2 | List the observational tools used by the ancient Arabs in astronomy. |
| 1.3 | List the most important achievements of Islamic and Babylonian astronomers |
| 1.4 | Describe the Copernicus's heliocentric model for solar system. |
| 1.5 | Recognize the contributions of Indians and Chinese in astronomy. |
| **2.0** | **Skills** | | |
| 2.1 | Compare between the achievements of Islamic and non-Islamic astronomers | In class lecturing | Exams |
| 2.2 | Compare between the Copernicus's heliocentric and Ptolemaic geocentric models |
| 2.3 | Write a report on the achievements of one of Islamic astronomers. |
| 2.4 | Write a report on the achievements of one of Islamic astronomers. | Oral discussion | Report |
| **3.0** | **Competence** | | |
| 3.1 | Work in a group. | Group discussion | Report |

## 2. Assessment Tasks for Students

| **#** | **Assessment task\*** | **Week Due** | **Percentage of Total Assessment Score** |
| --- | --- | --- | --- |
| **1** | Exam 1 | 5th | 20% |
| **2** | Exam 2 | 10th | 20% |
| **3** | Report | 12th | 20% |
| **4** | Final exam | 15th | 40% |
| **5** |  |  |  |

**\*Assessment task** (i.e., written test, oral test, oral presentation, group project, essay, etc.)

# E. Student Academic Counseling and Support

|  |
| --- |
| **Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice :** |
| Office hours: 3 hours per week |

# F. Learning Resources and Facilities

## 1.Learning Resources

|  |  |
| --- | --- |
| **Required Textbooks** | كتاب تاريخ الفلك بقلم دكتور [أحمد محمد عوف](http://ar.wikipedia.org/wiki/%D8%A3%D8%AD%D9%85%D8%AF_%D9%85%D8%AD%D9%85%D8%AF_%D8%B9%D9%88%D9%81) |
| **Essential References Materials** | المدخل لتاريخ العلوم (جورج سارتون)  أثر علماء العرب والمسلمين في تطوير علم الفلك (عبد الله الدفاع) |
| **Electronic Materials** |  |
| **Other Learning Materials** |  |

## 2. Facilities Required

| **Item** | **Resources** |
| --- | --- |
| **Accommodation**  (Classrooms, laboratories, demonstration rooms/labs, etc.) | Class room with 15 seats |
| **Technology Resources**  (AV, data show, Smart Board, software, etc.) | Data show |
| **Other Resources**  (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list) |  |

# G. Course Quality Evaluation

| **Evaluation**  **Areas/Issues** | **Evaluators** | **Evaluation Methods** |
| --- | --- | --- |
| Course contents | Students | Course evaluation questionnaire (Direct) |
| Learning resources and equipment | Students | Student experience questionnaire (Direct) |
| Effectiveness of teaching and assessment | Students | Student experience questionnaire (Direct) |
| Course contents and materials | Faculty members | By department council discussion (Indirect) |

**Evaluation areas** (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

**Evaluators** (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)

**Assessment Methods** (Direct, Indirect)

# H. Specification Approval Data

|  |  |
| --- | --- |
| **Council / Committee** |  |
| **Reference No.** |  |
| **Date** | September 2017 |