|  |  |
| --- | --- |
| **Course Title:** | **Scientific terminology** |
| **Course Code:** | **ASTR 392** |
| **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:** | | | | | | | | | | | | **6th Level / 3th Year** | | | | |
| **4. Pre-requisites for this course** (if any)**:** | | | | | | | | | | | | | | | | |
| **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** | **2** | **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** | **30** |
| **2** | **Laboratory/Studio** |  |
| **3** | **Tutorial** |  |
| **4** | **Others** (specify) |  |
|  | **Total** | **30** |
| **Other Learning Hours\*** | | |
| **1** | **Study** | **60 (minimum)** |
| **2** | **Assignments** |  |
| **3** | **Library** |  |
| **4** | **Projects/Research Essays/Theses** |  |
| **5** | **Others** |  |
|  | **Total** | **60** |

**\*** 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 Taking a list of scientific terminologies of different astronomical topics. This topic covers all branches of astronomy, such as astrophysics, astrodynamics, astrochemistry, and astrometry. |
| 2. Course Main Objective The main goal of this course is to teach the students the important astronomical terminologies. |
|  |

## 3. Course Learning Outcomes

| **CLOs** | | **Aligned****PLOs** |
| --- | --- | --- |
| 1 | **Knowledge:** |  |
| 1.1 | List the spectral types of stars. | K3, K9, K11 |
| 1.2 | Outline the stellar formation, evolution, and death steps. | K3, K9, K11 |
| 1.3 | Outline the main features of the solar system | K3, K9, K11 |
| 1.4 | Describe the formation of low and high mass stars | K9, K9, 11 |
| 1.5 | List the different solar activities | K3, K9 |
| 1.6 | List the types of normal and active galaxies | K9, K11 |
| 1.7 | State the structure of interstellar medium. | K4, K9 |
| **2** | **Skills :** |  |
| 2.1 | Compare the different types of telescopes. | S10 |
| 2.2 | Compare between the spectra produce by different celestial objects. | S1, S4 |
| 2.3 | Explain the structure of elliptical and spiral galaxies. | S1, S8 |
| 2.4 | Show the chemical composition of interstellar medium. | S1, |
| 2.5 | Explain the H-R diagram. | S1, S7, S9 |
| 2.6 | Write a report on one of the recent space motion. | S12, S13, S14 |
| **3** | **Competence:** |  |
| 3.1 | Work in group to prepare a research project | C1, C2 |

# C. Course Content

|  |  |  |
| --- | --- | --- |
| **No** | **List of Topics** | **Contact Hours** |
| 1 | Astronomical terminologies which starting with A to D letters | 8 |
| 2 | Astronomical terminologies which starting with F to I letters | 8 |
| 3 | Astronomical terminologies which starting with L to R letters | 7 |
| 4 | Astronomical terminologies which starting with S to W letters | 7 |
|  |  |  |
| **Total** | | **30** |

# 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 | List the spectral types of stars. | In class lectures + open discussion | Exams & Homework |
| 1.2 | Outline the stellar formation, evolution, and death steps. |
| 1.3 | Outline the main features of the solar system |
| 1.4 | Describe the formation of low and high mass stars |
| 1.5 | List the different solar activities |
| 1.6 | List the types of normal and active galaxies |
| 1.7 | State the structure of interstellar medium. |
| **2.0** | **Skills** | | |
| 2.1 | Compare the different types of telescopes. | In class lectures + open discussion | Exams & Homework |
| 2.2 | Compare between the spectra produce by different celestial objects. |
| 2.3 | Explain the structure of elliptical and spiral galaxies. |
| 2.4 | Show the chemical composition of interstellar medium. |
| 2.5 | Explain the H-R diagram. |
| 2.7 | Write a report on one of the recent space motion. | Oral discussion | Presentation |
| **3.0** | **Competence** | | |
| 3.1 | Work in group to prepare a research project | Oral discussion | Report |

## 

## 2. Assessment Tasks for Students

| **#** | **Assessment task\*** | **Week Due** | **Percentage of Total Assessment Score** |
| --- | --- | --- | --- |
| **1** | Exams I | 4th | 20% |
| **2** | Exams II | 10th | 20% |
| **4** | Homework | Each two weeks | 10% |
| **5** | Research project | 13th | 10% |
| **6** | Final Exam | 15th | 40% |

**\*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: 2 hours per week |

# F. Learning Resources and Facilities

## 1.Learning Resources

|  |  |
| --- | --- |
| **Required Textbooks** | -“PHILIP’S ASTRONOMY ENCYCLOPEDIA” Patrick Moore, published by Phillip’s, ISBN: 0540078638, 9780540078639 (2002).  - “Astronomy Today” [Eric Chaisson](https://www.google.com.sa/search?tbo=p&tbm=bks&q=inauthor:%22Eric+Chaisson%22) and [Steve McMillan](https://www.google.com.sa/search?tbo=p&tbm=bks&q=inauthor:%22Steve+McMillan%22), published by Pearson Education, 9th edition (2017). |
| **Essential References Materials** |  |
| **Electronic Materials** | - Online “Encyclopedia of Astronomy and Astrophysics” - <http://eaa.crcpress.com/>  - Online “[Encyclopedia Britannica](https://global.britannica.com/)” - <https://global.britannica.com/science/astronomy> |
| **Other Learning Materials** |  |

## 2. Facilities Required

| **Item** | **Resources** |
| --- | --- |
| **Accommodation**  (Classrooms, laboratories, demonstration rooms/labs, etc.) | * Lecture’s room with 15 seats * Internet access |
| **Technology Resources**  (AV, data show, Smart Board, software, etc.) | Data show and overhead projector |
| **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 |