**JCC OFFICIAL COURSE OUTLINE**

**Course number, title and credits; total time allocation**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Course Number | **BIO 110** | | | Credits | **4** | | Title | **Introductory Biology** | | | | |
| Lecture/Discussion | | **45** | hrs/semester | |  | Lab | **30** | hrs/semester |  | Clinical | **0** | hrs/semester |

**Catalog description and Pre- and Co-requisites (Same as taxonomy and catalog)**

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| Students will investigate the nature of science and critically analyze scientific data. Basic biological concepts including cancer, biostatistics, organic molecules and nutrition, biotechnology, nutrient cycles, and evolution are presented in the context of current issues. This course includes a discussion component which involves reading, critically evaluating, and discussing scientific papers; thus strong college reading and writing skills are recommended. The course is designed for non-science majors, and includes a laboratory component. Prerequisites: English 085, English 090 and MAT 031 or higher. |

**Knowledge, skills and abilities Students Acquire from this Course (Educational Objectives)**

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| Students successfully completing this course should be able to:  - Describe the nature of science as a self correcting process.  - Identify cell structures and describe their functions.  - Explain the origin of cancer cells and factors affecting their growth.  - Understand the basic structure and function of DNA.  - Describe basic biotechnology procedures and applications  - Understand the mechanisms of evolutionary change and how evolution differs from non-scientific  explanations.  - Understand the factors affecting global warming and other human impacts on the environment |

**Associate Degree Outcomes Addressed in this Course (These must appear in course syllabus)**

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| ADO4, ADO7 |

**Units/topics of Instruction**

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| Characteristics of Life, Nature of Science,Biostatistics and Statistical Significance, Chemistry of Life, Properties of Organic Macromolecules and Nutritional and Disease Implications, Structure of Nucleic Acids, Plasma Membranes, Cell Structure, Cancer, Mutations, Biotechnology, Evidences For Evolution, Natural Selection, Global Warming, Pollutants and Biomagnification. |

**Instructional Use of Computer or Other Technology**

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| Students use Excel to do statistical analysis of data sets and to determine statistical significance. Powerpoint is used in lecture. Students access course materials including discussion articles,grades, links to web sites, animations and screencasts on JetNet. |

**Instructional Materials and Costs to Students**

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| Course fee $35  Students are required to purchase a textbook and laboratory manual, and in some cases a lecture course pack |

**Skills and abilities students should bring to the course**

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|  |  | a limited amount of material |  |  | basic, pre-algebraic problems |
| Able to read |  | an average amount of material | Able to compute |  | simple algebraic problems |
|  |  | an above average amount of material |  |  | higher order mathematical problems |
|  |  | relatively easy material |  |  | short compositions |
| Able to read |  | moderately difficult material | Able to write |  | medium length compositions |
|  |  | technical or sophisticated material |  |  | lengthy compositions |
|  |  | keyboard skills/familiar with computer |  |  |  |
| Able to use |  | computer application | Other necessary |  | Some experience with reading and constructing graphs helpful |
| technology |  | web navigation | abilities |  |  |

**The course is usually scheduled**

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| --- | --- | --- | --- | --- | --- | --- |
| Day: |  | Fall |  | Winter |  | Spring |
|  |  |  |  |  |  |  |
| Evening: |  | Fall |  | Winter |  | Spring |

|  |  |  |
| --- | --- | --- |
| **Prepared by** **Laura Thurlow** |  | **Date** 10/31/11 |
| **Approved by Dept.** |  | **Date** |
| **Approved by Dean** |  | Date |
| **Approved by Curriculum Committee** |  | **Date** |

**(last names, please)**