OFFICIAL UNDERGRADUATE COURSE OUTLINE INFORMATION

Students are advised to keep course outlines in personal files for future use.

Shaded headings are subject to change at the discretion of the department – see course syllabus available from instructor

PHYS 175

COURSE NAME/NUMBER: Science/Physics 1

FACULTY/DEPARTMENT: Survey of Medical Physics

UFV CREDITS:

COURSE DESCRIMENT TITLE:

Survey of Medical Physics

CALENDAR DESCRIPTION:

This course is meant to give students an overview of the field of Medical Physics. It will describe the different types of diseases, treatments, and research that Medical Physicists are involved with, the job prospects and salary, and the training required for a starting position and for advancement.

Note: Students with credit for PHYS 275 cannot take this course for further credit.

PREREQUISITES: One of (Physics 11, PHYS 083, or PHYS 100 or higher) and one of (Chemistry 11 or CHEM 083 or higher).

COREQUISITES:

PRE or COREQUISITES:

SYNONYMOUS COURSE(S):

(a) Replaces: PHYS 275

(b) Cross-listed with: 

(c) Cannot take: for further credit.

SERVICE COURSE TO: (department/program)

TOTAL HOURS PER TERM: 15

STRUCTURE OF HOURS:

Lectures: 10 Hrs

Seminar: Hrs

Laboratory: Hrs

Field experience: 5 Hrs

Student directed learning: Hrs

Other (specify): Hrs

TRAINING DAY-BASED INSTRUCTION:

Length of course:

Hours per day:

OTHER:

Maximum enrolment: 24

Expected frequency of course offerings: annually

(every semester, annually, every other year, etc.)

WILL TRANSFER CREDIT BE REQUESTED? (lower-level courses only) ☐ Yes ☒ No

WILL TRANSFER CREDIT BE REQUESTED? (upper-level requested by department) ☐ Yes ☒ No

TRANSFER CREDIT EXISTS IN BCCAT TRANSFER GUIDE: ☐ Yes ☒ No

WILL TRANSFER CREDIT BE REQUESTED? (upper-level requested by department) ☐ Yes ☒ No

TRANSFER CREDIT EXISTS IN BCCAT TRANSFER GUIDE: ☐ Yes ☒ No

Course designer(s): Iulian Badragan / Dr. Bilal Shahine / Norm Taylor

Department Head: Norm Taylor

Date approved: September 2011

Supporting area consultation (Pre-UEC) Date of meeting: May 6, 2011

Curriculum Committee chair: Norm Taylor

Date approved: May 13, 2011

Dean/Associate VP: Ora Steyn

Date approved: June 3, 2011

Date of meeting: October 28, 2011

Undergraduate Education Committee (UEC) approval
LEARNING OUTCOMES:
Upon successful completion of this course, students will be able to:
- Demonstrate an understanding of the different types and techniques of Medical Physics.
- Demonstrate an understanding of the training required to be a Medical Physicist.
- Demonstrate an understanding of the different types of cancers that Medical Physicists help to treat.

METHODS: (Guest lecturers, presentations, online instruction, field trips, etc.)
Most of the material will be presented in lecture and guest lecture format, but there will also be a large field trip component (site visits). Students will be expected to provide their own transportation. Class presentations and/or an essay may also be required.

METHODS OF OBTAINING PRIOR LEARNING ASSESSMENT RECOGNITION (PLAR):
- Examination(s)
- Portfolio assessment
- Interview(s)
- Other (specify): Evidence of related experience in the field

PLAR cannot be awarded for this course for the following reason(s):

TEXTBOOKS, REFERENCES, MATERIALS:
[Textbook selection varies by instructor. An example of texts for this course might be:]
Literature from Canadian Organization of Medical Physicists (COMP) website (www.medphys.ca) and American Association of Physicists in Medicine (AAPM) website (www.aapm.org)

SUPPLIES / MATERIALS:

STUDENT EVALUATION:
[An example of student evaluation for this course might be:]
Homework (essays) 25%
Participation/attendance 25%
Final exam 50%

COURSE CONTENT:
[Course content varies by instructor. An example of course content might be:]
- The object of Medical Physics
- Specialties:
  1. Imaging and diagnostic techniques:
     a. Positron Emission Tomography and Computed Tomography (PET-CT)
     b. Computed Tomography (CT)
     c. Magnetic Resonance Imaging (MRI)
     d. Ultrasound, film, other
  2. Nuclear Medicine (radioactive intake, specific imaging techniques)
  3. Radiation Oncology (tumor treatment using external radiation or radioactive sources – Linear Accelerators (Linacs), Low Dose and High Dose Radiotherapy (LDR and HDR), and specific imaging techniques such as Onboard Imaging (OBI) and Electronic Portal Imaging Device (EPID)
- Forms of cancer
- Jobs and salary range (US, Canada, Europe, other)
- Training requirements
- Site visits
- Essay (list of topics provided, or alternative approved by the instructor)