IMG 305 8WK

Imaging Informatics

This is a redevelopment of course I previously designed and taught (new instructor) in the summer of 2015 to run fall of 2015. The SME/faculty developer never taught before.

This document includes screen shots of the overview page, table of contents, the major course projects (6), and modules one and two.

IMG 305 - Imaging Informatics

Darcy Krassow, M.Ed., RT (R)(CT)
(419) 601-2510
darcy.krassow@mercycollege.edu

Important:

- **IMG 305 FA 15 ONLINE Syllabus.pdf**

Welcome to IMG 305!

I am excited to get to know each of you over the course of this semester! We will be covering a variety of fun and eduational topics throughout different exercises and activities.

I want to take a minute to give you some advice to make you successful throughout this course. To start, please print off your syllabus and keep it handy. This little document contains a large chunk of helpful information that will assist you in your participation of this course. Pay attention to dates, assignment instructions, as well as general class information that is located within the syllabus. This is a fast-paced course that is fully packed with material, so always remember to stick to the dates listed in the syllabus so you don't fall behind. If you find yourself falling behind or having issues, contact me right away.

As a general guideline, we will be taking on one module per week, and each module begins on Monday at 12:01 AM and ends the following Sunday at 11:59 PM (except for Modules 1 and 6, which have different start and end dates). We will be covering 4-6 chapters (or lessons) each week. It is absolutely essential that you read the assigned textbook readings and listen/watch each lecture presentation ... I promise it will be helpful towards your success of this course.

As always, I am here for you! Please don't hesitate to contact me should you have any questions or concerns throughout the next 8 weeks. We will get through this together and have fun doing so!

Communication Policy
We will use the course discussion board, the virtual office, and email in this course. The discussion board will deal with responses to class assignments. The virtual office and/or email can be used for any individual specific questions or concerns. My goal will be to respond to all e-mails within 24 hours.

Course Information

Description

This course will present Picture Archival and Communication Systems (PACS), computed radiography (CR), direct digital radiography (DR), networking fundamentals and DICOM standard. Topics include comparison of computerbased records to traditional film records, teleradiology and Radiology Information Systems (RIS). The acquisition process of a PACS, medicallegal issues, productivity, image compression and image storage are examined.

Course Objectives

1. Discuss computer fundamentals
2. Explain computed radiography (CR) and direct digital radiography (DR) applications
3. Understand what a Picture Archival and Communication System (PACS) is and how it is used
4. Discuss the role of Digital Imaging and Communications in Medicine standard (DICOM)
5. Identify the major hardware components of a PACS
6. Discuss network fundamentals
7. List and explain the major components of a network
8. Define system architecture and recognize the major models employed by PACS
9. Discuss data storage solutions utilized by PACS
10. Develop a PACS strategic plan
11. Explain the request for proposal process (RFP) for PACS
12. Utilize workstation software application terminology
13. Discuss the role of teleradiology
14. Identify the function of Radiology Information Systems (RIS)
15. List and describe the elements of a workstation
16. Summarize the workflow process of a medical imaging department

Course Delivery

This course is delivered completely online, creating a dynamic, interactive learning environment for students to enjoy. You will have assigned chapter readings at the beginning of each module, which will be supplemented by power point lectures. **This is not a self-paced course.** I will guide you through each module, with deadlines for exams, quizzes, etc. along the way. This class requires a lot of time and reading in order to be successful so please do not think that "online" translates into "easy". I hope you will enjoy this class as I will be here to answer any questions, misunderstandings, or any other issues you may be faced with. I am here for your success so feel free to contact me whenever the need arises.

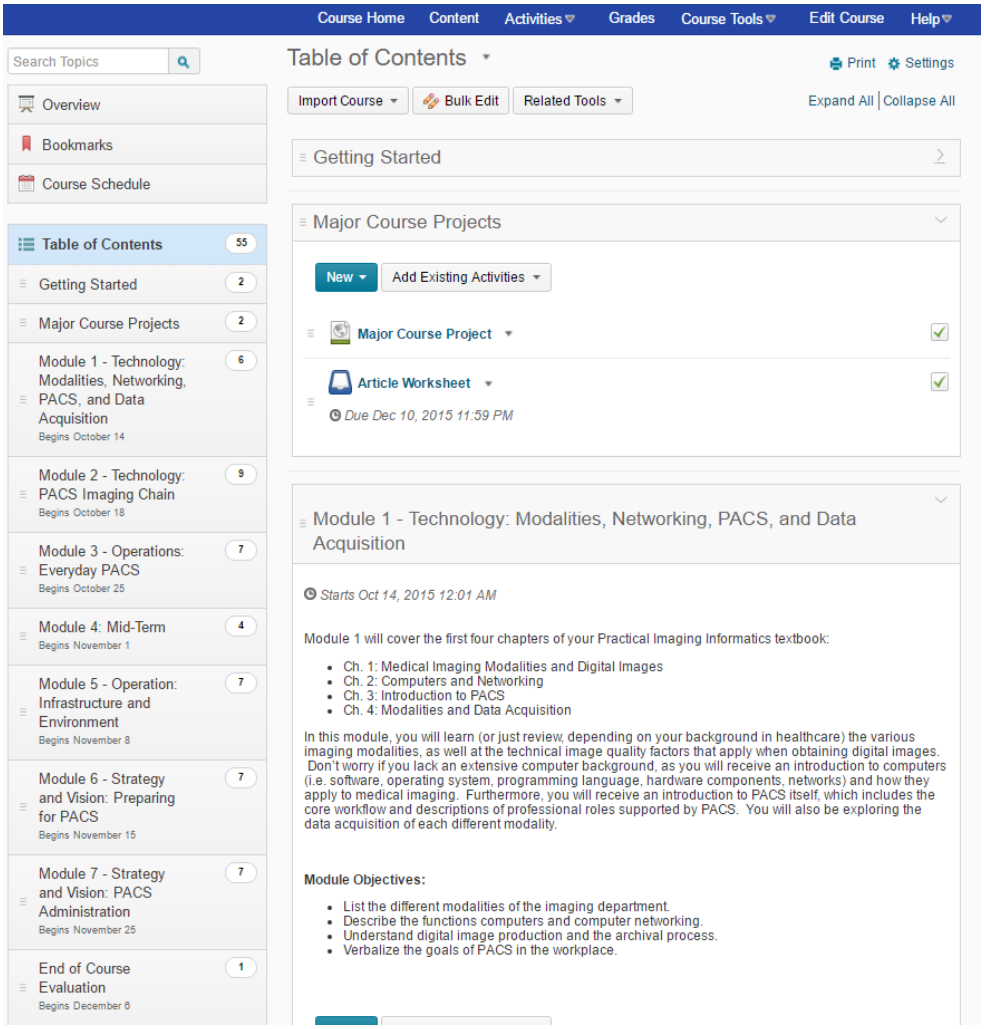
Our topics will follow the standard Academic Week, which means you can start working on a module **Monday at 12:01am** and wrap things up by **Sunday 11:59pm** each week (unless noted otherwise). You may have multiple due dates throughout the week or a project that spans multiple weeks, so please pay attention to the due dates listed for each activity.

Brightspace by D2L Orientation in Campus Connection

All students should self-enroll in **Campus Connection** and complete the Brightspace Orientation during the first week of this class. There you will find information on getting help with Brightspace and recommended downloads to optimize your system. You can access the Campus Connection materials anytime from the **Student Resource** box on both the Brightspace Home Page and your Course Home Page.

What are you waiting for? Get Started!

Be sure to read through all materials in the Getting Started module including the **syllabus** and **semester-long assignments**, then head over to Module 1 to start your first lesson.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Module 1 - Technology: Modalities, Networking, PACS, and Data Acquisition
Starts Oct 14, 2015 12:01 AM
Module 1 will cover the first four chapters of your Practical Imaging Informatics textbook:
Ch. 1: Medical Imaging Modalities and Digital Images
Ch. 2: Computers and Networking
Ch. 3: Introduction to PACS
Ch. 4: Modalities and Data Acquisition
In this module, you will learn (or just review, depending on your background in healthcare) the various imaging modalities, as well at the technical image quality factors that apply when obtaining digital images. Don't worry if you lack an extensive computer background, as you will receive an introduction to computers (i.e. software, operating system, programming language, hardware components, networks) and how they apply to medical imaging. Furthermore, you will receive an introduction to PACS itself, which includes the core workflow and descriptions of professional roles supported by PACS. You will also be exploring the data acquisition of each different modality.
Module Objectives:
List the different modalities of the imaging department.
Describe the functions computers and computer networking.
Understand digital image production and the archival process.
Verbalize the goals of PACS in the workplace.
Module 8 - Article Review and Final Exam
Begins December 6 3
Add a module...
New
Add Existing Activities
M1 Discussion
Due Oct 20, 2015 11:59 PM
Lesson 1: Medical Imaging Modalities and Digital Images 1
All lessons within this module contain a learning activity that can be found within the lesson. Below are the system requirements needed for the learning activity to work properly.
System Requirements for Interactive Activities
Operating System: Windows 7/8, VISTA
Apple: Macintosh OS X
Web Browsers: Windows - Internet Explorer (IE 9) or above, Mozilla/Firefox 10 or higher
Apple - Safari 1.x or higher, Firefox
Google Chrome
Flash Player: Adobe Flash Player 10 or higher
Mobile Devices: SoftChalk content can be viewed with most mobile device Web Browsers on both iOS and Android platforms. Opera-mobile browser is recommended for Android devices.
Lesson 2: Computers and Networking 1
Lesson 3: Introduction to PACS 1
Lesson 4: Modalities and Data Acquisition 1
M1 Quiz
Starts Oct 14, 2015 12:01 AM Ends Oct 20, 2015 11:59 PM

Module 2 - Technology: PACS Imaging Chain

Starts Oct 18, 2015 12:01 AM

Module 2 will cover the chapters 5-10 of your Practical Imaging Informatics textbook:

- Ch. 5: Workflow steps in Radiology
- Ch. 6: Standards and Interoperability
- Ch. 7: Viewing Images
- Ch. 8: Image Postprocessing and Volume Rendering
- Ch. 9: Image Distribution
- Ch. 10: Reporting and Dictation

Congratulations on making it through the first week! Moving along, you will now begin to understand how data and process interact in a fully digital environment. We will be exploring the documentation and workflow processes that are key to the implementation of a functional digital imaging environment, as well as information technology standards that are relevant to digital imaging.

You will learn how human perception (especially vision) and interpretation play pivotal factors in viewing digital images, as well as display hardware and software basics of of a computer. You will learn about basic and advanced post-processing techniques, and why an effective enterprise image distribution strategy is essential to a successful imaging department. From types and handwritten reports years ago to newer speech recognition, you will discover various reporting and dictation methods that are utilized regarding and how the quality of a PACS interface has a major impact on radiologist acceptance of reporting software. You will find that this module is packed with a large amount of information, but it is all extremely helpful and necessary in understanding imaging informatics.

You can do this!

Also, hopefully you have read over all the information this course contains regarding what is expected of your through the next seven weeks. I want you to begin looking at what you will be doing for your major project for this course. Although it is only week two, I want to point out that the major project is broken down into three different parts, with the part 1 being due with module 4. You will need to begin researching some outside sources during this week for this section of the project so the work doesn't pile up on you and seem like a huge obstacle when module 4 rolls around. Think of the major project as a continuous assignment throughout this course that you should be working on little by little as the weeks pass so you don't become overwhelmed.

Module Objectives:

- Identify the steps of workflow in the radiology department
- Describe the information technology standards relevant to imaging
- Determine the DICOM standard and how images are viewed
- Identify the basic steps of image post-processing

New | Add Existing Activities

- **Lesson 1: Workflow Steps in Radiology** 1
- **Lesson 2: Standards and Interoperability** 1
- **Lesson 3: Viewing Images** 1
- **Lesson 4: Image Post-Processing and Volume Rendering** 1
- **Lesson 5: Image Distribution** 1
- **Lesson 6: Reporting and Dictation** 1

M2 Self Assessment

Due Oct 25, 2015 11:59 PM

M2 Discussion

Due Oct 24, 2015 11:59 PM

M2 Quiz

Starts Oct 21, 2015 12:01 AM Ends Oct 25, 2015 11:59 PM

Module 3 - Operations: Everyday PACS

Starts Oct 25, 2015 12:01 AM

Module 3 will cover the chapters 11-15 of your Practical Imaging Informatics textbook:

1. Ch. 11: Customer Relations
2. Ch. 12: User Training
3. Ch. 13: Quality Assurance for Medical Imaging
4. Ch. 14: Data Storage and Disaster Recovery
5. Ch. 15: Downtime Procedures and Departmental Policies

On to module 3 … we are now reaching the halfway point of your textbook. In this module, you will be learning about an imaging informatics professional's customers. It might sound odd to think of this role in a business sense with customers, but in reality, an imaging informatics professional still has a customer base, which include radiologists, clinicians, technologists, patients, and the IT department. You will be comprehending what the training process entails in order to run a successful PACS system, which includes stages like needs assessment, development, implementation, and evaluation.

Quality assurance of digital imaging will be discussed in depth in this module, as well as the roles and responsibility of different roles (i.e. physicist, radiologist, imaging informatics professional) in quality assurance. You will be well versed on the many storage requirements, including hardware, software, and the infrastructure necessary in general. I'm sure you have experienced a situation in your workplace where you have had PACS downtime occur. You will be learning the different types of downtime that occur, as well as how to minimize downtime and the policies and procedures that go along with it.

Remember, part 1 of your major project (research and outline) is due next week with module 4.

Module Objectives:

- Determine the importance of obtaining and maintaining good customer relations
- Implement training techniques that work and produce positive results
- Identify the goal of quality assurance in medical imaging
- Explain how data is stored and how to cope with disaster recovery
- List downtime procedures and devise departments; policies

New | Add Existing Activities

Lesson 1: Customer Relations 1

All lessons within this module contain a learning activity that can be found within the lesson. Below are the system requirements needed for the learning activity to work properly.

System Requirements for Interactive Activities

Operating System: Windows 7/8, VISTA

Apple: Macintosh OS X

Web Browsers: Windows - Internet Explorer (IE 9) or above, Mozilla/Firefox 10 or higher

Apple - Safari 1.x or higher, Firefox

Google Chrome

Flash Player: Adobe Flash Player 10 or higher

Mobile Devices: SoftChalk content can be viewed with most mobile device Web Browsers on both iOS and Android platforms. Opera-mobile browser is recommended for Android devices.

Lesson 2: User Training 1

Lesson 3: Quality Assurance for Medical Imaging 1

Lesson 4: Data Storage and Disaster Recovery 1

Lesson 5: Downtime Procedures and Department Policies 1

M3 Discussion

Due Oct 31, 2015 11:59 PM

M3 Quiz

Starts Oct 26, 2015 12:01 AM Ends Nov 1, 2015 11:59 PM

Module 4: Mid-Term

Starts Nov 1, 2015 12:01 AM

We are now at halfway point of the course! I'm hoping you are beginning to see the light at the end of the tunnel. While we still have a good amount of information to cover, you have come a long way so give yourself a pat on the back.

In this module, you will be gaining knowledge on how to create a video presentation using Movenote, which will be an assignment to prepare you for Part 3 of your major project (video presentation).

You will be taking a midterm exam that is due at the end of the week (it opens on Wednesday at 12:01 am EST and closes Sunday at 11:59 pm EST). As per normal, you will have a discussion that is due this week as well. Also, your research and outline (part 1) of the major project is due at the end of this week's module. (Sunday at 11:59 pm).

Module objectives:

- Adapt interactive presentation into learning style
- Analyze a scholarly article and respond in professional manner
- Utilize previous module lessons to complete the midterm exam

New | Add Existing Activities

M4 MoveNote

Due Nov 8, 2015 11:59 PM

M4 Discussion

Due Nov 7, 2015 11:59 PM

Project Part 1

Due Nov 8, 2015 11:59 PM

Midterm Exam

Starts Nov 4, 2015 12:01 AM Ends Nov 8, 2015 11:59 PM

Module 5 - Operation: Infrastructure and Environment

Starts Nov 8, 2015 12:01 AM

Module 5 will cover the chapters 16-19 of your Practical Imaging Informatics textbook:

1. Ch. 16: Reading Room Design
2. Ch. 17: Workflow Testing and Workflow Engineering
3. Ch. 18: Policy Management and Regulatory Compliance
4. Ch. 19: Billing and Coding

Give yourselves a pat on the back as we are now over the halfway hill of this course! In module 5, you will be made aware of the importance of how a reading room is designed, as a poorly designed reading room could have a high negative impact productivity and radiologist reading speed. Also, you will learn how managers have to alter the workflow of their department when a PACS system is implemented by either hiring new employees or making their existing employees more efficient. You will understand the various policies and compliance requirements that an imaging informatics professional must follow as they are laid out in this module. And finally, you will learn how billing and coding relates to imaging informatics.

Module Objectives:

- Identify the different parts of the reading room and why the reading room design is important
- Discuss the concepts of workflow testing and workflow engineering of the radiology department
- Explain the importance of policy management and regulatory compliance in the workplace
- List the general concepts of billing and coding

New | Add Existing Activities

Lesson 1: Reading Room Design 1

Lesson 2: Workflow Testing and Workflow Engineering 1

Lesson 3: Policy Management and Regulatory Compliance 1

Lesson 4: Billing and Coding 1

M5 Self Assessment

Due Nov 15, 2015 11:59 PM

M5 Discussion

Due Nov 14, 2015 11:59 PM

M5 Quiz

Start Date	Due Date	End Date
Nov 9, 2015 12:01 AM	Add due date...	Nov 15, 2015 11:59 PM

Release Conditions

Create Browse

Update Cancel

Module 6 - Strategy and Vision: Preparing for PACS

Starts Nov 15, 2015 12:01 AM

Module 6 will cover the chapters 20-23 of your Practical Imaging Informatics textbook:

1. Ch. 20: Economics of PACS and Related Systems
2. Ch. 21: PACS Readiness
3. Ch. 22: Choosing a Vendor
4. Ch. 23: Acceptance Testing

You should use this week to finish up part 2 of your your major project, which is the writing component of your paper that is due on November 24th at 11:59 PM EST. I highly suggest completing the readings and lectures early in the week to allow yourself time to digest the content in them and apply it to your paper.

In the readings and lecture for this week's module, you will be learning about the financial side of installing a new PACS system. We will discuss concepts that must be thought about when it comes to choosing a PACS vendor, as well as how to develop an effective RFP and business plan. Also, you will discover what acceptance testing is and how it serves as an evaluation of a PACS system's performance.

Module Objectives:

- Identify the steps in the financial aspect of implementing a PACs system in the workplace
- Discuss PACS readiness
- Identify what to look for when choosing a PACS vendor
- Define and discuss the aspects of acceptance testing

New Add Existing Activities

Lesson 1: Economics of PACS and Related Systems 1

All lessons within this module contain a learning activity that can be found within the lesson. Below are the system requirements needed for the learning activity to work properly.

System Requirements for Interactive Activities

Operating System: Windows 7/8, VISTA

Apple: Macintosh OS X

Web Browsers: Windows - Internet Explorer (IE 9) or above, Mozilla/Firefox 10 or higher

Apple - Safari 1.x or higher, Firefox

Google Chrome

Flash Player: Adobe Flash Player 10 or higher

Mobile Devices: SoftChalk content can be viewed with most mobile device Web Browsers on both iOS and Android platforms. Opera-mobile browser is recommended for Android devices.

Lesson 2: PACS Readiness 1

Lesson 3: Choosing a Vendor 1

Lesson 4: Acceptance Testing 1

M6 Discussion

Due Nov 24, 2015 11:59 PM

Project Part 2 *Draft*

Due Nov 24, 2015 11:59 PM

M6 Quiz

Starts Nov 16, 2015 12:01 AM Ends Nov 24, 2015 11:59 PM

Module 7 - Strategy and Vision: PACS Administration

Starts Nov 25, 2015 12:00 AM

Module 7 will cover the chapters 24-26 of your Practical Imaging Informatics textbook:

1. Ch. 24: Working with Vendors
2. Ch. 25: Team Building and Project Management
3. Ch. 26: Long-Range Planning

While there is still more to learn, I'm sure you are excited to finish up readings the last few chapters of your textbook. While this is an accomplishment, be sure to not "check out" quite yet. We still have valuable content that needs to be learned throughout this module and as well as next week's module. In module 7, you will learn how to navigate through working with PACS vendors, including the need for an RFI and how it relates to the RFP. We will be discussing why it is important to build a PACS committee and utilize project management strategies.

Also, part 3 of your major project is due by Sunday at 11:59 pm this week. Please work diligently on this throughout the week as it is worth 30 points.

New | Add Existing Activities

Lesson 1: Working With Vendors 1

Lesson 2: Team Building and Project Management 1

Lesson 3: Long Range Planning 1

M7 Self Assessment
Due Dec 6, 2015 11:59 PM

M7 Discussion
Due Dec 5, 2015 11:59 PM

Major Project Presentation
Due Dec 6, 2015 11:59 PM

M7 Quiz
Starts Nov 25, 2015 12:00 AM Ends Dec 6, 2015 11:59 PM

End of Course Evaluation

Starts Dec 6, 2015 12:01 AM

You must submit your survey in order to unlock Module 8.

New | Add Existing Activities

15-FA IMG-305-W1 8WK2 (Krassow) End of Course Evaluation
Starts Dec 6, 2015 12:00 AM

Module 8 - Article Review and Final Exam

Starts Dec 6, 2015 12:01 AM

All conditions must be met
Completes **1** attempt(s) on the survey: **15-FA IMG-305-W1 8WK2 (Krassow) End of Course Evaluation**

Congratulations on powering through to the final module! This week, you will be reading four short articles pertaining to PACS and imaging informatics, as well as completing a brief worksheet on them. You will still have a discussion post due also.

Your final exam will open on Thursday at 12:01 and will close Saturday at 11:59 pm.

While there is no lecture this week, you will be reading four articles related to topics we have covered in past lectures. These articles demonstrate how the concepts and topics we have learned about over the course of the past eight weeks are applied to real life situations in regards to choosing a PACS.

Supporting objectives:

- Utilize past module lessons and concepts to complete the final exam
- Discuss PACS data migration, vendor choice, and business continuity approaches in imaging informatics

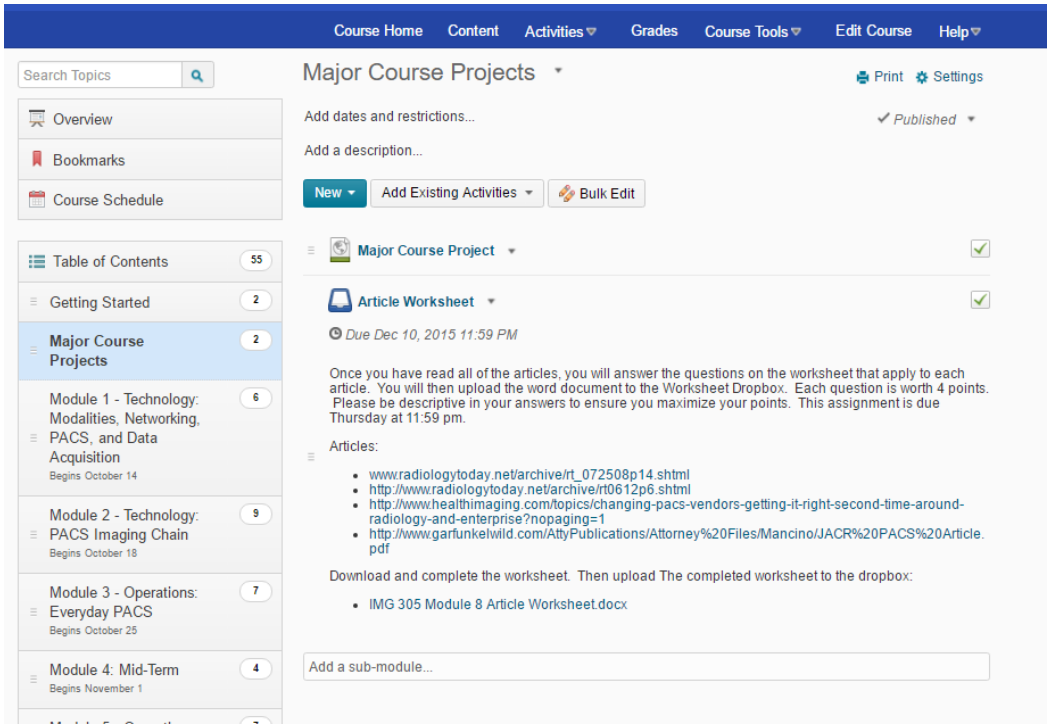
Let's finish strong!

New ▾ Add Existing Activities ▾

Article Worksheet ▾
Due Dec 10, 2015 11:59 PM

M8 Discussion ▾
Due Dec 12, 2015 11:59 PM

Final Exam ▾
Starts Dec 10, 2015 12:01 AM Ends Dec 12, 2015 11:59 PM



Major Course Project

Scenario:

You are a newly hired PACS Administrator at Regional Health Hospital (RHH). RHH's radiology department consists primarily of computed radiography (CR) and digital radiography (DR) imaging equipment, with the exception of film-screen mammography. They will be switching to DR mammography equipment soon and with this change, they will also be replacing their existing PACS system with a new one.

However, the department has multiple concerns that need to be addressed with the implementation of a new PACS system. The touch screen monitors in the department are becoming worn, hardly recognizing when a technologist touches the screen. There are some networking issues occurring over the last six months since the facility has added an additional CT scanner to their equipment archive. This has resulted in additional large image sets, which have impeded workflow and netted negative patient satisfaction surveys (as well as adding frustrations to the radiologist when retrieving images to read). This concern is only growing with the potential of adding large high resolution mammography images.

Also, the numbers of radiologists have doubled in size in the last two years, which has resulted in a cramped and inefficient reading room set-up. The current reading room is dated with no collaboration from the radiologists, and a bad lighting scheme and uncomfortable furniture. The CEO has given you the responsibility to design a plan to implement a new PACS system and reading room for the hospital.

The current PACS vendor has made a less than satisfactory impression on the hospital. While there are not any glaring red flags with the current vendor, you feel there may be better options out there in regards to service, price, and efficiency. At this point, you have already assessed your site's PACS needs and requirements and are ready to develop your plan.

Task:

Write a paper regarding your business development plan for implementing the new PACS system. It should include the following information:

1) *Introduction:* You will need to discuss the importance of upgrading the PACS system. Discuss the individuals and departments that are both positively and negatively impacted by the current PACS system.

2) *PACS Project Team:* You will form a committee consisting of valuable team members to help you with your business plan. What stakeholders will you invite to the committee and for what reasons?

3) *Return on Investment (ROI):* Explain the types of costs you foresee RHH incurring in this project. You will need to create a table that demonstrates specific cost numbers. The CFO is especially interested in when RHH will be recouping the investment so be sure to include a ROI (in years). The table should not take up more than half of a page.

4) *Request for Proposal (RFP):* Use the outline on pages 352-358 in your text, making sure to address each point.

5) *Site Visit:* You will be assessing the vendor's product at a site visit at a neighboring facility, Anytime Hospital (AH). Discuss what you will be looking for in order to gain a better understanding of the product from the site visit (i.e. workflow, support personnel, product exposure, professional networking). What is AH's overall experience with the product? What is AH's opinion of the vendor's service and downtime due to system failures? Are the vendor's upgrades successful when implemented as far as Anytime Hospital's experience?

6) *Training:* You need to discuss training and applications in your paper. What training method did RHH work out with the vendor in order to train personnel (i.e. train-the-trainer, multiple superusers, one-on-one training for everyone, etc)? Who needs to be trained and what is the delivery of the training? How long is the initial training, and is there any ongoing training?

7) *Closing:* This needs to include a restatement of the introduction with brief thoughts on how the new PACS system will improve department efficiency and user satisfaction, and be sure to discuss the workload and financial advantages.

Part 1: Research and Outline – Due Module 4

- IMG305MajorProjectOutlineRubric.docx.pdf
- Major Project Part 1 Student Example.pdf

For this portion of your major course project, you will be constructing an outline that will assist you later when you write your paper. Refer to the business development plan topics listed above. It is helpful to focus on parts 2-6, as the introduction and closing can be added later. For this, you will need to start your research and should include two outside sources in the information somewhere on your outline. Don't worry, you do not have to have the final vision completed yet, but you should have an idea of where you will be applying your outside sources in your paper. Remember, the more detailed you are with your outline, the easier it will be for you when it comes time to write your paper. *This is worth 20 points.*

- Submit to the dropbox here

Part 2: Paper – Due Module 6

- IMG305MajorProjectPaperRubric.docx.pdf
- ROI Table Examples.pdf

The paper will be in APA format, with 12 point font, double spacing, and 1" uniform margins. It should include a cover page, body (with proper in-text citations), and reference page. The body of the paper will be at least four pages, but no more than seven pages long. You are expected to utilize *at least* two outside sources of your choosing, as well as at least three citations from your textbook. You should be referring heavily on your outline to expand your writing into the actual paper. Remember to also apply parts 1 and 7 from the business development plan when you construct your paper (introduction and closing). *This is worth 100 points.*

- Submit to the dropbox here

Part 3: Presentation – Due Module 7

- IMG305MajorProjectPresentationRubric.docx.pdf

You will now be sharing your paper containing RHH's business development plan into a presentation for the hospital's board members. The board will have the final say in whether to approve your plan or not. While they will read your paper later, they are more interested in a presentation that will be at least five minutes long, but no longer than seven minutes (they have other topics on their agenda to discuss so their time is extremely valuable). You will present in the form of a Movenote.com presentation, and it will need to contain and discuss all of the seven topics covered in your paper and contain at least 5 main content slides. *This is worth 30 points.*

- Major Project Presentation

Adding the three parts of this project together, your major project is worth 150 points.

Article Worksheet

Instructions

Once you have read all of the articles, you will answer the questions on the worksheet that apply to each article. You will then upload the word document to the Worksheet Dropbox. Each question is worth 4 points. Please be descriptive in your answers to ensure you maximize your points. This assignment is due Thursday at 11:59 pm.

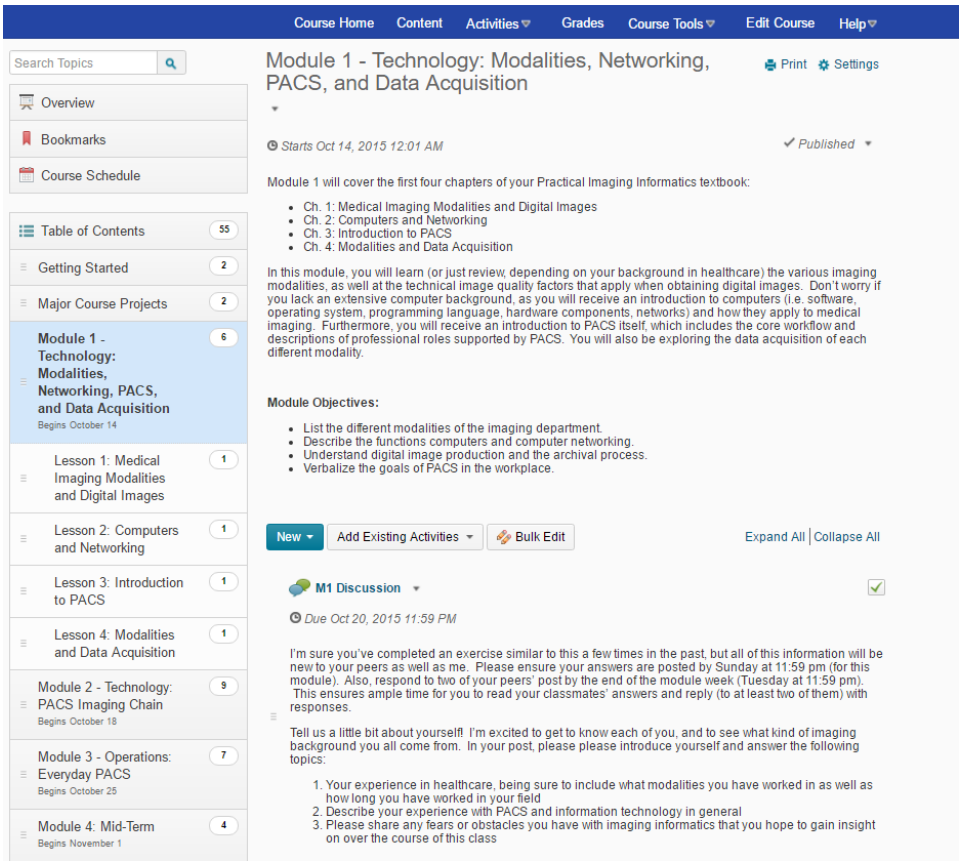
Articles:

- www.radiologytoday.net/archive/rt_072508p14.shtml
- http://www.radiologytoday.net/archive/rt0612p6.shtml
- http://www.healthimaging.com/topics/changing-pacs-vendors-getting-it-right-second-time-around-radiology-and-enterprise?nopaging=1
- http://www.garfunkelwild.com/AttyPublications/Attorney%20Files/Mancino/JACR%20PACS%20Article.pdf

Download and complete the worksheet. Then upload The completed worksheet to the dropbox:

- IMG 305 Module 8 Article Worksheet.docx

› Add Attachments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Lesson 2: Computers and Networking 1
Lesson 3: Introduction to PACS 1
Lesson 4: Modalities and Data Acquisition 1
Module 2 - Technology: PACS Imaging Chain 9
Begins October 18
Module 3 - Operations: Everyday PACS 7
Begins October 25
Module 4: Mid-Term 4
Begins November 1
Module 1 - Technology: Modalities, Networking, PACS, and Data Acquisition
Print
Settings
Starts Oct 14, 2015 12:01 AM
Published
Module 1 will cover the first four chapters of your Practical Imaging Informatics textbook:
Ch. 1: Medical Imaging Modalities and Digital Images
Ch. 2: Computers and Networking
Ch. 3: Introduction to PACS
Ch. 4: Modalities and Data Acquisition
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Module Objectives:
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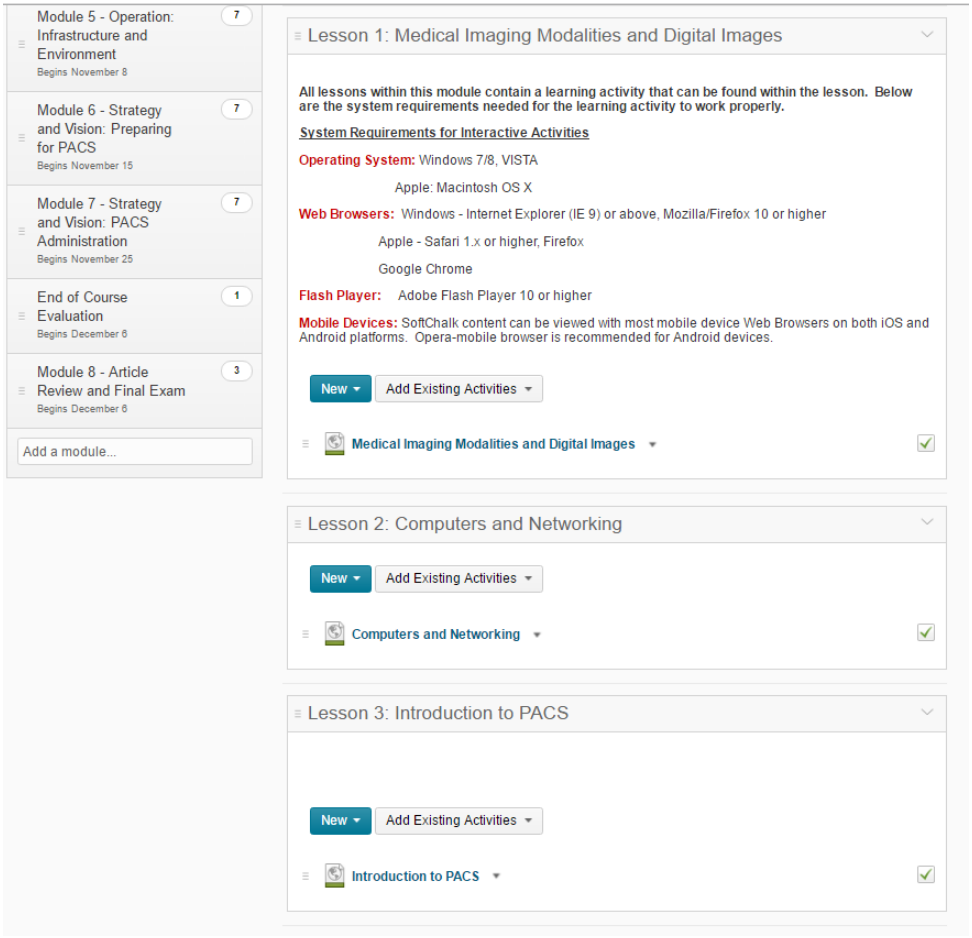
Describe the functions computers and computer networking.
Understand digital image production and the archival process.
Verbalize the goals of PACS in the workplace.
New
Add Existing Activities
Bulk Edit
Expand All | Collapse All
M1 Discussion
Due Oct 20, 2015 11:59 PM
I'm sure you've completed an exercise similar to this a few times in the past, but all of this information will be new to your peers as well as me. Please ensure your answers are posted by Sunday at 11:59 pm (for this module). Also, respond to two of your peers' post by the end of the module week (Tuesday at 11:59 pm). This ensures ample time for you to read your classmates' answers and reply (to at least two of them) with responses.
Tell us a little bit about yourself! I'm excited to get to know each of you, and to see what kind of imaging background you all come from. In your post, please please introduce yourself and answer the following topics:
1. Your experience in healthcare, being sure to include what modalities you have worked in as well as how long you have worked in your field
2. Describe your experience with PACS and information technology in general
3. Please share any fears or obstacles you have with imaging informatics that you hope to gain insight on over the course of this class


Module 5 - Operation: Infrastructure and Environment 7
Begins November 8
Module 6 - Strategy and Vision: Preparing for PACS 7
Begins November 15
Module 7 - Strategy and Vision: PACS Administration 7
Begins November 25
End of Course Evaluation 1
Begins December 6
Module 8 - Article Review and Final Exam 3
Begins December 6
Add a module...
Lesson 1: Medical Imaging Modalities and Digital Images
All lessons within this module contain a learning activity that can be found within the lesson. Below are the system requirements needed for the learning activity to work properly.
System Requirements for Interactive Activities
Operating System: Windows 7/8, VISTA
Apple: Macintosh OS X
Web Browsers: Windows - Internet Explorer (IE 9) or above, Mozilla/Firefox 10 or higher
Apple - Safari 1.x or higher, Firefox
Google Chrome
Flash Player: Adobe Flash Player 10 or higher
Mobile Devices: SoftChalk content can be viewed with most mobile device Web Browsers on both iOS and Android platforms. Opera-mobile browser is recommended for Android devices.
New
Add Existing Activities
Medical Imaging Modalities and Digital Images
Lesson 2: Computers and Networking
New
Add Existing Activities
Computers and Networking
Lesson 3: Introduction to PACS
New
Add Existing Activities
Introduction to PACS

Lesson 4: Modalities and Data Acquisition

New | Add Existing Activities

Modalities and Data Acquisition

M1 Quiz

Starts Oct 14, 2015 12:01 AM Ends Oct 20, 2015 11:59 PM

You will be quizzed on the material that is covered in each module in the textbook, lecture, and powerpoint slides. The quiz will be brief (20-30 questions depending on the size of the module), and you will have 60 minutes to complete it. I encourage you to utilize all of your study materials (i.e. textbook, powerpoint slides, notes you have taken) while you complete your quiz, but you must work alone.

Academic Integrity and Allowed Materials
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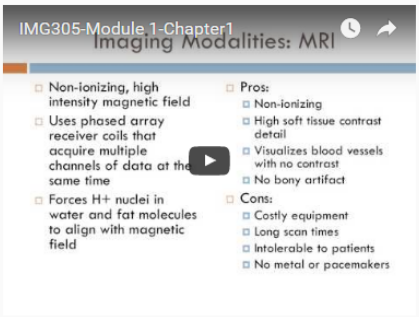
It is advised that you press the Save button and save your response to each question. In the event of a technical error, some of your work may be retrievable. Call the Desire2Learn technical support team if you encounter a technical issue during your exam period: 1-877-325-7778

Medical Imaging Modalities and Digital Images

Read Chapter 1 - Medical Imaging Modalities and Digital Images

Click here for powerpoint slides: IMG305-Module 1-Chapter 1.pdf



Below is a link to a learning object. Click the link to launch the activity in a new window. This activity is worth 5 points and you have 3 attempts. Your highest score will be submitted to the gradebook. Be sure to read all directions before starting the learning activity.

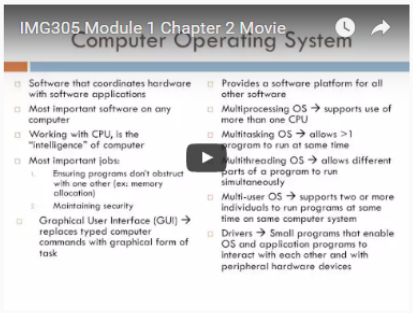
If you experience technical difficulties refer to the instructions "System Requirements for Interactive Activities" listed in the module overview section. You can also call the Brightspace helpdesk at 1-877-325-7778.

Chapter 1 Crossword Activity

Computers and Networking

Read Chapter 2 - Computers and Networking

Click here for powerpoint slides: IMG305-Module 1-Chapter 2.pdf



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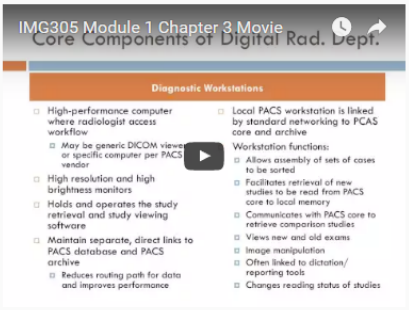
Chapter 2 Selection Interactive Activity

Introduction to PACS

Read Chapter 3 - Introduction to PACS

Click here for powerpoint slides: IMG305-Module 1-Chapter 3.pdf



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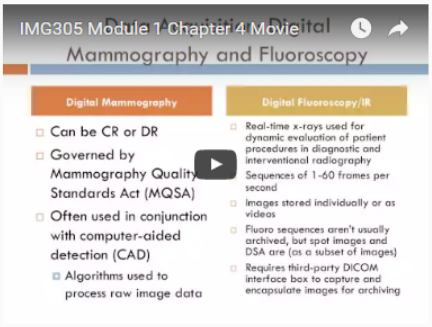
Chapter 3 Selection Interactive Activity

Modalities and Data Acquisition

Read Chapter 4 - Modalities and Data Acquisition

Click here for powerpoint slides: IMG305-Modality 1-Chapter 4.pdf



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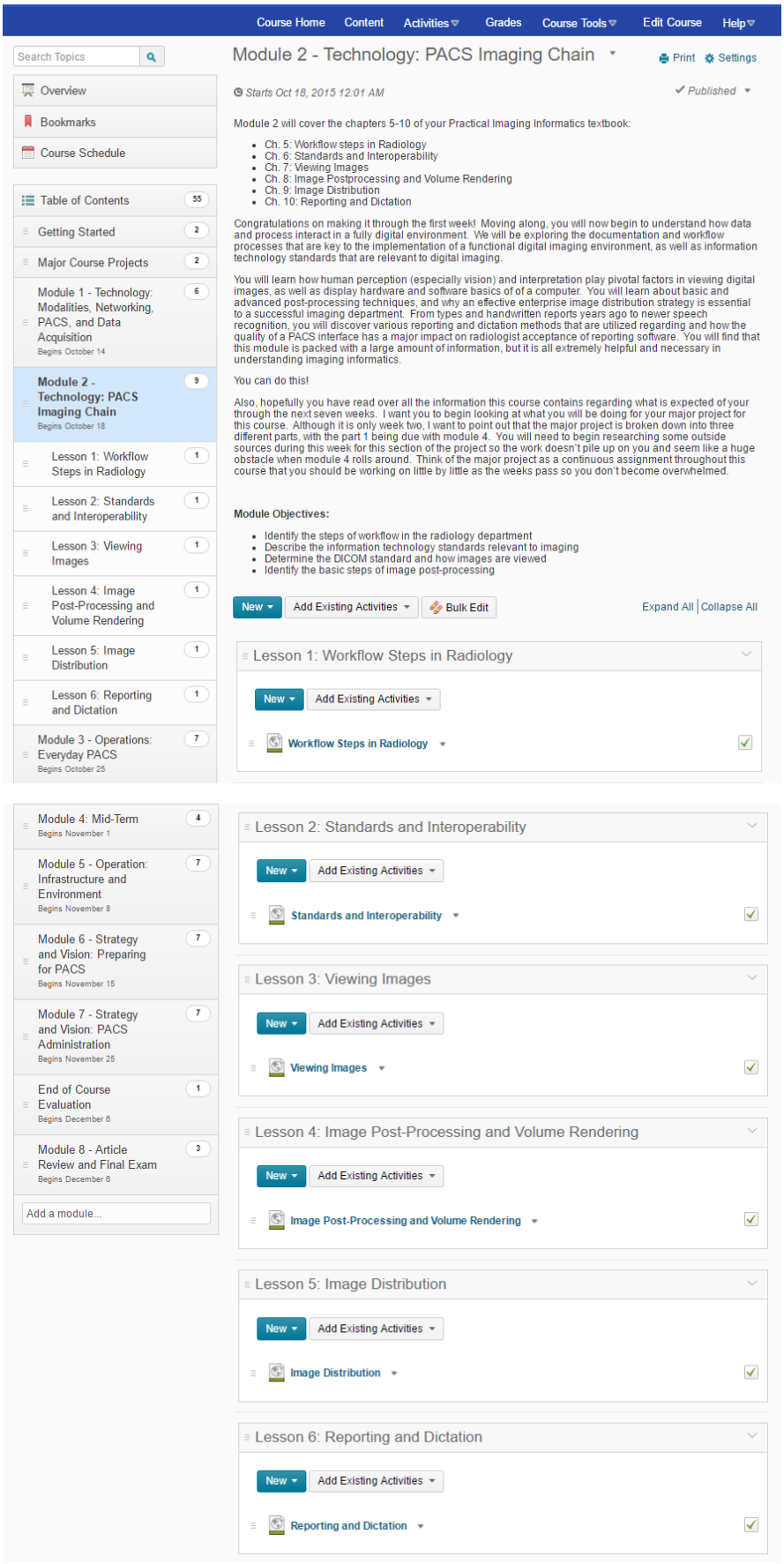
Chapter 4 Sorting Interactive Activity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Begins October 14
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Begins October 18
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Lesson 2: Standards and Interoperability 1
Lesson 3: Viewing Images 1
Lesson 4: Image Post-Processing and Volume Rendering 1
Lesson 5: Image Distribution 1
Lesson 6: Reporting and Dictation 1
Module 3 - Operations: Everyday PACS 7
Begins October 25
Module 4: Mid-Term 4
Begins November 1
Module 5 - Operation: Infrastructure and Environment 7
Begins November 8
Module 6 - Strategy and Vision: Preparing for PACS 7
Begins November 15
Module 7 - Strategy and Vision: PACS Administration 7
Begins November 25
End of Course Evaluation 1
Begins December 6
Module 8 - Article Review and Final Exam 3
Begins December 6
Add a module...
Module 2 - Technology: PACS Imaging Chain
Print
Settings
Starts Oct 18, 2015 12:01 AM
Published
Module 2 will cover the chapters 5-10 of your Practical Imaging Informatics textbook:
Ch. 5: Workflow steps in Radiology
Ch. 6: Standards and Interoperability
Ch. 7: Viewing Images
Ch. 8: Image Postprocessing and Volume Rendering
Ch. 9: Image Distribution
Ch. 10: Reporting and Dictation
Congratulations on making it through the first week! Moving along, you will now begin to understand how data and process interact in a fully digital environment. We will be exploring the documentation and workflow processes that are key to the implementation of a functional digital imaging environment, as well as information technology standards that are relevant to digital imaging.
You will learn how human perception (especially vision) and interpretation play pivotal factors in viewing digital images, as well as display hardware and software basics of of a computer. You will learn about basic and advanced post-processing techniques, and why an effective enterprise image distribution strategy is essential to a successful imaging department. From types and handwritten reports years ago to newer speech recognition, you will discover various reporting and dictation methods that are utilized regarding and how the quality of a PACS interface has a major impact on radiologist acceptance of reporting software. You will find that this module is packed with a large amount of information, but it is all extremely helpful and necessary in understanding imaging informatics.
You can do this!
Also, hopefully you have read over all the information this course contains regarding what is expected of your through the next seven weeks. I want you to begin looking at what you will be doing for your major project for this course. Although it is only week two, I want to point out that the major project is broken down into three different parts, with the part 1 being due with module 4. You will need to begin researching some outside sources during this week for this section of the project so the work doesn't pile up on you and seem like a huge obstacle when module 4 rolls around. Think of the major project as a continuous assignment throughout this course that you should be working on little by little as the weeks pass so you don't become overwhelmed.
Module Objectives:
Identify the steps of workflow in the radiology department
Describe the information technology standards relevant to imaging
Determine the DICOM standard and how images are viewed
Identify the basic steps of image post-processing
New
Add Existing Activities
Bulk Edit
Expand All | Collapse All
Lesson 1: Workflow Steps in Radiology
New
Add Existing Activities
Workflow Steps in Radiology
Lesson 2: Standards and Interoperability
New
Add Existing Activities
Standards and Interoperability
Lesson 3: Viewing Images
New
Add Existing Activities
Viewing Images
Lesson 4: Image Post-Processing and Volume Rendering
New
Add Existing Activities
Image Post-Processing and Volume Rendering
Lesson 5: Image Distribution
New
Add Existing Activities
Image Distribution
Lesson 6: Reporting and Dictation
New
Add Existing Activities
Reporting and Dictation

M2 Self Assessment

Due Oct 25, 2015 11:59 PM

You will find self-assessment questions at the end of every assigned chapter you have read. Pick ten self-assessment questions (total throughout the module readings, not ten questions from every chapter) and answer them in the format of a word document. Submit this document to the module dropbox.

Follow the following format when answering each question:

1. State the question you are answering, as well as the chapter and its number
2. Explain your response using the textbook, and be sure to include the page number where you discovered your information
3. Each answer will be a minimum of 70 words … feel free to utilize outside resources in addition to your textbook (be sure to cite all outside references and sources in APA format)
4. Submit your assignment in the appropriate Self Assessment drop box

M2 Discussion

Due Oct 24, 2015 11:59 PM

Choose one of the following questions/statements below to answer in the discussion board. Be sure to list the question/statement you have chosen before explaining your answer. Please ensure your answers are a minimum of 125 words and are posted by Wednesday at 11:59 pm. Also, respond to two of your peers' answers with a reply of at least 75 words by the end of the module week (Saturday at 11:59 pm). This ensures ample time for you to read your classmates' answers and reply (to at least two of them) with responses.

Choose one of the following questions to answer:

1. Describe the five different steps of an IHE workflow model
2. Differentiate between the three aspects of vision that are critical for interpreting medical images
3. Discuss the various filters used for noise reduction
4. Discuss the advantages and disadvantages of speech recognition technology

M2 Quiz

Starts Oct 21, 2015 12:01 AM Ends Oct 25, 2015 11:59 PM

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Workflow Steps in Radiology

Read Chapter 5 - Workflow Steps in Radiology

Click here for powerpoint slides: IMG305-MODULE 2-CHAPTER 5.pdf

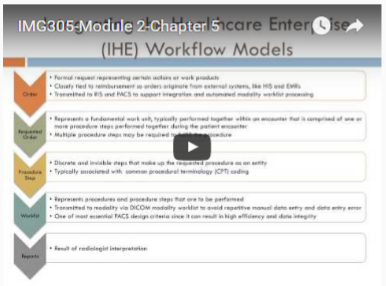


Image Post-Processing and Volume Rendering

Read Chapter 8 - Image Postprocessing and Volume Rendering

Click here for powerpoint slides: IMG305-Module 2-Chapter 8.pdf

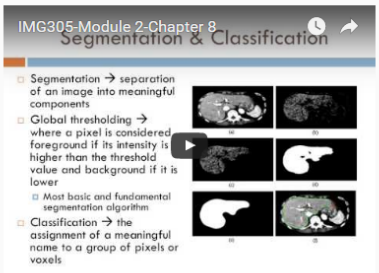
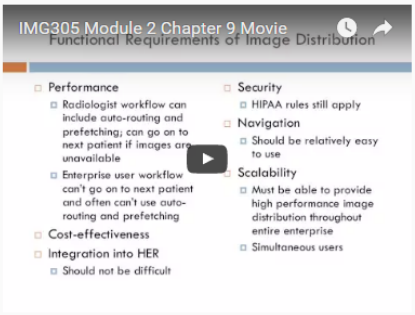


Image Distribution

Read Chapter 9 - Image Distribution

Click here for powerpoint slides: IMG305-Module 2-Chapter 9.pdf



Reporting and Dictation

Read Chapter 10 - Reporting and Dictation

Click here for powerpoint slides: IMG305-Module 2-Chapter 10.pdf