



NORTH CAROLINA COMMUNITY COLLEGE SYSTEM
H. Martin Lancaster, President

February 7, 2008

RESPONSE DEADLINE: February 21, 2008

MEMORANDUM

TO: Select Chief Academic Officers

FROM: Delores A. Parker, Vice President
Academic and Student Services

SUBJECT: Requested Revision in *Combined Course Library* Courses
and Curriculum Standard Revision to Interventional Cardiac and
Vascular Technology (A45410)

The System Office has received a request to revise the following courses contained in the *Combined Course Library*:

ICV 214	ICV Physics II
ICV 216	Radiologic Pharmacology
ICV 217	Inter Equip & Supplies
ICV 220	ICV Clinical Ed IV
ICV 230	ICV Clinical Ed V

In addition to the above course changes, there has also been a request for a curriculum standard revision to the Interventional Cardiac and Vascular Technology (A45410) program. Attached are forms requesting your approval or disapproval of the proposed changes. ***Please complete and return the forms to Renee Batts by February 21, 2008.*** You may fax your response to (919) 807-7164. Once the responses have been received at the System Office, the course requests will be presented to the Curriculum Review Committee for action at their March meeting. The curriculum standard revision will be presented at the April meeting of the State Board of Community Colleges for “future action” and at the May meeting of the State Board of Community Colleges for “action” (approval).

Thank you for your prompt attention to this matter. If you have questions, please contact Renee Batts at (919) 807-7118 or battsr@nccommunitycolleges.edu.

DAP/rb

Attachments

c: Select Presidents
Judith C. Mann
Renee Batts

S08-016
Email

College Recommendation
Course Revision Request
ICV 214 ICV Physics II

Current Course Information:

ICV 214	ICV Physics II	1	2	0	2
Prerequisites:	ICV 114				
Corequisites:	None				

This course continues the study of physics that underlie x-ray production and the fluoroscopic equipment utilized in interventional cardiac/vascular laboratories. Topics include the production of x-rays, electromagnetic interactions with matter, equipment circuitry, targets, filtration, and dosimetry. Upon completion, students should be able to demonstrate an understanding of the application of physical concepts as related to image production.

Proposed Prerequisite: ICV 114 or RAD 131

Proposed Course Description: This course is designed to escalate basic physics studies that underlie x-ray production and image enhancement techniques of fluoroscopic equipment utilized in interventional cardiac/vascular laboratories. Topics include the production of x-rays, electromagnetic interactions with matter, equipment circuitry, targets, filtration, various filming techniques, digital equipment, and principles of magnification. Upon completion, students should be able to demonstrate an understanding of the application of physical concepts and specialized imaging techniques as related to image production.

Proposed Implementation Date: College requests early implementation of Fall 2008.

Rationale of Requesting College: The proposed changes in the course description for ICV 214 (ICV Physics II) address additional information that will be incorporated in the course to enhance the student's knowledge base. RAD 131 (Radiographic Physics I) and ICV 114 (ICV Physics I) mirror each other. Adding RAD 131 as a prerequisite will allow radiography graduates who seek enrollment in the advanced ICV diploma from being required to take ICV 114.

_____ We have reviewed the proposed revisions and **recommend** the adoption of these changes for **ICV 214** for the following reason(s):

_____ We concur with the rationale of the requesting college.

_____ Other:

_____ We have reviewed the proposed revisions and **do not recommend** the adoption of these changes for **ICV 214** for the following reason(s):

_____ We do not offer **ICV 214** and wish to decline from making a recommendation.

College: _____

Signature of President: _____ **Date:** _____

Please return this form by **February 21, 2008** to:

Renee Batts, Coordinator
Program Services
NC Community College System
5016 Mail Service Center
Raleigh, NC 27699-5016
Fax Number: (919) 807-7164

Proposed

CURRICULUM STANDARD

Effective Term
Fall 2008 Fall 2005
2005*03
2008*03

Curriculum Program Title Interventional Cardiac and Vascular Technology Code A45410
 Concentration (not applicable)

Curriculum Description

The Interventional Cardiac and Vascular Technology curriculum provides individuals with the knowledge and skills necessary to qualify as an entry-level Intervention Cardiac and Vascular Specialist.

Course work will include radiographic physics, radiation protection, patient care, ECG, pharmacology, anatomy and pathology. Clinical rotations will provide experiences with advanced radiographic imaging equipment and medications used to visualize human vasculature and organs.

Graduates should qualify for eligibility to apply for and take the Registered Cardiovascular Intervention Technology (RCIS) exams given by the Cardiovascular Credentialing International (CCI).

Curriculum Requirements*

- I. **General Education.** Degree programs must contain a minimum of 15 semester hours including at least one course from each of the following areas: humanities/fine arts, social/behavioral sciences, and natural sciences/mathematics. Degree programs must contain a minimum of 6 semester hours of communications. Diploma programs must contain a minimum of 6 semester hours of general education; 3 semester hours must be in communications. General education is optional in certificate programs.
- II. **Major Hours.** AAS, diploma, and certificate programs must include courses which offer specific job knowledge and skills. Work experience, including cooperative education, practicums, and internships, may be included in a degree or diploma program up to a maximum of 8 semester hours and in a certificate program up to a maximum of 2 semester hours. *(see back of page for Major Hours requirements)*
- III. **Other Required Hours.** A college may require other subjects or courses to complete graduation requirements. These requirements may include electives, orientation, study skills courses, or other graduation requirements.

	AAS	Diploma	Certificate
Minimum General Education Hours	15	6	0
Minimum Major Hours	49	30	12
Other Required Hours	0-7	0-4	0-1
Total Semester Hours Credit in Program	64-76	36-48	12-18

PROPOSED

Major Hours

- A. Core.** The subject/course core is comprised of subject areas and/or specific courses which are required for each curriculum program. A diploma program offered under an approved AAS program standard or a certificate which is the highest credential level awarded under an approved AAS program standard must include a minimum of 12 semester hours credit derived from the subject/course core of the AAS program.
- B. Concentration (if applicable).** A concentration of study must include a minimum of 12 semester hours credit from required subjects and/or courses. The majority of the course credit hours are unique to the concentration. The required subjects and/or courses that make up the concentration of study are in addition to the required subject/course core.
- C. Other Major Hours.** Other major hours must be selected from prefixes listed on the curriculum standard. A maximum of 9 semester hours credit may be selected from any prefix listed, with the exception of prefixes listed in the core or concentration. Work experience, including cooperative education, practicums, and internships, may be included in associate in applied science degree and diploma curriculum programs up to a maximum of 8 semester hours credit and in certificate programs up to a maximum of 2 semester hours credit.

Interventional Cardiac and Vascular Technology (A45410)

	AAS	Diploma	Certificate																																																		
Minimum Major Hours Required	49 SHC	30 SHC	12 SHC																																																		
<p>A. CORE <i>A diploma offered under this AAS degree requires a minimum of 12 SHC extracted from the required subject/course core of the AAS degree.</i></p> <p>Required Courses:</p> <table border="0"> <tr><td>ICV 110 Patient Care/Fundamentals</td><td>3 SHC</td></tr> <tr><td>ICV 111 ICV Electrocardiography</td><td>1 SHC</td></tr> <tr><td>ICV 112 ICV Ionizing RAD Effects</td><td>2 SHC</td></tr> <tr><td>ICV 113 Inter Neuro Radiography</td><td>2 SHC</td></tr> <tr><td>ICV 114 ICV Physics I</td><td>2 SHC</td></tr> <tr><td>ICV 214 ICV Physics II</td><td>2 SHC</td></tr> <tr><td>ICV 120 ICV Clinical Ed I</td><td>2 SHC</td></tr> <tr><td>ICV 125 ICV Clinical Ed II</td><td>4 SHC</td></tr> <tr><td>ICV 130 ICV Clinical Ed III</td><td>4 SHC</td></tr> <tr><td>ICV 216 ICV Pharmacology</td><td>2 SHC 3 SHC</td></tr> <tr><td>ICV 217 Inter Equip & Supplies</td><td>3 SHC</td></tr> <tr><td>ICV 218 Cardiac Physiology & Proc</td><td>3 SHC</td></tr> <tr><td>ICV 219 Vascular Physiology & Proc</td><td>3 SHC</td></tr> <tr><td>ICV 220 ICV Clinical Ed IV</td><td>9 SHC 8 SHC</td></tr> <tr><td>ICV 230 ICV Clinical Ed V</td><td>9 SHC 8 SHC</td></tr> <tr><td>ICV 241 ICV Pathology Review</td><td>2 SHC</td></tr> </table> <p>Required Subject Areas:</p> <p>Anatomy and Physiology:</p> <table border="0"> <tr><td>BIO 166 Anatomy and Physiology II</td><td>4 SHC or</td></tr> <tr><td>BIO 169 Anatomy and Physiology II</td><td>4 SHC</td></tr> </table> <p>Exam Prep. Select one:</p> <table border="0"> <tr><td>ICV 261 ICV Cardiac Exam Prep</td><td>1 SHC</td></tr> <tr><td>ICV 262 ICV Vascular Exam Prep</td><td>1 SHC</td></tr> </table> <p>Physics. Select one set: (Move ICV 114 and ICV 214 to Required Courses)</p> <table border="0"> <tr><td>ICV 114 ICV Physics I</td><td>2 SHC &</td></tr> <tr><td>ICV 214 ICV Physics II</td><td>2 SHC</td></tr> <tr><td>or</td><td></td></tr> <tr><td>RAD 131 Radiographic Physics I</td><td>2 SHC &</td></tr> <tr><td>RAD 231 Radiographic Physics II</td><td>2 SHC</td></tr> </table>	ICV 110 Patient Care/Fundamentals	3 SHC	ICV 111 ICV Electrocardiography	1 SHC	ICV 112 ICV Ionizing RAD Effects	2 SHC	ICV 113 Inter Neuro Radiography	2 SHC	ICV 114 ICV Physics I	2 SHC	ICV 214 ICV Physics II	2 SHC	ICV 120 ICV Clinical Ed I	2 SHC	ICV 125 ICV Clinical Ed II	4 SHC	ICV 130 ICV Clinical Ed III	4 SHC	ICV 216 ICV Pharmacology	2 SHC 3 SHC	ICV 217 Inter Equip & Supplies	3 SHC	ICV 218 Cardiac Physiology & Proc	3 SHC	ICV 219 Vascular Physiology & Proc	3 SHC	ICV 220 ICV Clinical Ed IV	9 SHC 8 SHC	ICV 230 ICV Clinical Ed V	9 SHC 8 SHC	ICV 241 ICV Pathology Review	2 SHC	BIO 166 Anatomy and Physiology II	4 SHC or	BIO 169 Anatomy and Physiology II	4 SHC	ICV 261 ICV Cardiac Exam Prep	1 SHC	ICV 262 ICV Vascular Exam Prep	1 SHC	ICV 114 ICV Physics I	2 SHC &	ICV 214 ICV Physics II	2 SHC	or		RAD 131 Radiographic Physics I	2 SHC &	RAD 231 Radiographic Physics II	2 SHC	57 SHC	12 SHC	
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RAD 131 Radiographic Physics I	2 SHC &																																																				
RAD 231 Radiographic Physics II	2 SHC																																																				
B. CONCENTRATION (Not applicable)																																																					
<p>C. OTHER MAJOR HOURS <i>To be selected from the following prefixes:</i> BIO, CIS, COE, CSC, CVS, ICT, ICV, IMG, NAN, NMT, NUR, RAD, RCP, RTT, SON, and SUR <i>Foreign language courses (including ASL) that are not designated as approved other major hours may be included in all programs up to a maximum of 3 semester hours of credit.</i></p>																																																					

College Recommendation
 Course Revision Request
 ICV 216 Radiographic Pharmacology

Current Course Information:

ICV 216 Radiographic Pharmacology

2 0 0 2

Prerequisites: None

Corequisites: None

This course is designed to inform the student about medications commonly utilized in cardiovascular/vascular labs. Emphasis is placed on drug sources, uses, classifications, dosages, indications, contraindications, interactions and reactions for various age groups. Upon completion, students should be able to compute dosages and rationalize the uses of therapeutic medications delivered in interventional cardiac/vascular laboratories.

Proposed course title change: ICV Pharmacology

Proposed Course description: This course provides the nature and source of drugs, safety, and responsibility, routes of administration, pharmacokinetics, and patient variables that affect medication therapy. Emphasis is placed on classifications, dosages, indications, contraindications, interactions, adverse reactions, critical care, and life-threatening situations. Upon completion, students should be able to compute dosages and practice safe usage and administration of therapeutic medications according to protocols of the medical facility.

Proposed Hours: 3-0-0- 3

Proposed Implementation Date: College requests early implementation of Fall 2008.

Rationale of Requesting College: The change in classroom and credit hours is needed to ensure adequate time for instruction. Emergency medicine in the interventional field includes patient resuscitation and should not be confused with basic pharmacology in diagnostic radiology. The proposed changes in the course description expand the instruction from one area (cardio/vascular labs) to life-threatening situations within a medical facility.

_____ We have reviewed the proposed revisions and **recommend** their adoption for **ICV 216** for the following reason(s):

_____ We concur with the rationale of the requesting college.

_____ Other: _____

_____ We have reviewed the proposed revisions and **do not recommend** their adoption for **ICV 216** for the following reason(s): _____

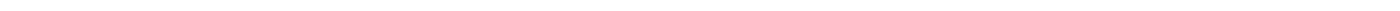
_____ We do not offer ICV 216 and wish to decline from making a recommendation.

College: _____

Signature of President: _____ **Date:** _____

Please return this form by **February 21, 2008** to:

Renee Batts, Coordinator
Program Services
NC Community College System
5016 Mail Service Center
Raleigh, NC 27699-5016
Fax Number: (919) 807-7164



College Recommendation
Course Revision Request
ICV 217 Inter Equip & Supplies

Current Course Information:

ICV 217	Inter Equip & Supplies	2	2	0	3
Prerequisites:	None				
Corequisites:	None				

This course covers advanced radiography equipment, instrumentation, image enhancement techniques, physiologic monitoring equipment, inventory and supplies used in interventional lab settings. Emphasis is placed on various filming techniques, digital equipment, principles of magnification, automatic injectors, catheters, guide wires, needles and other needed equipment. Upon completion, the students should be able to demonstrate knowledge of angiographic equipment, specialized imaging techniques, supplies and principles used in an interventional environment.

Proposed Course Description: This course covers advanced interventional equipment, instrumentation, physiologic monitoring equipment, inventory and supplies used in interventional suites. Emphasis is placed on automatic injectors, catheters, guide wires, needles, intravascular ultrasound, and surgically invasive equipment. Upon completion, the student should be able to demonstrate knowledge of angiographic equipment and supplies utilized during procedures in an invasive lab setting.

Proposed Implementation Date: College requests early implementation of Fall 2008.

Rationale of Requesting College: The proposed changes in the course description for ICV 217 (Interventional Equipment & Supplies) are more reflective of the content and incorporate the recommendations from the advisory board.

_____ We have reviewed the proposed course description and **recommend** the adoption of this change for **ICV 217** for the following reason(s):

_____ We concur with the rationale of the requesting college.

_____ Other: _____

_____ We have reviewed the proposed course description and **do not recommend** the adoption of this change for **ICV 217** for the following reason(s): _____

_____ We do not offer **ICV 217** and wish to decline from making a recommendation.

College: _____

Signature of President: _____ **Date:** _____

Please return this form by **February 21, 2008** to:

Renee Batts, Coordinator
Program Services
NC Community College System
5016 Mail Service Center
Raleigh, NC 27699-5016
Fax Number: (919) 807-7164

College Recommendation
Course Revision Request
ICV 220 ICV Clinical Ed IV

Current Course Information:

ICV 220	ICV Clinical Ed IV	0	0	27	9
Prerequisites:	None				
Corequisites:	None				

This course provides the opportunity to apply knowledge gained from didactic instruction to the cardiovascular interventional clinical environment. Emphasis is placed on patient care, radiation safety, recognition of cardiovascular anatomy and pathology, equipment and imaging procedures and production. Upon completion, students should be able to demonstrate selected cardiac procedures, advanced ECG interpretation, preparation of sterile supplies, and maintenance of equipment and supplies.

Proposed Prerequisite: ICV 130

Proposed Hours: 0-0-24-8

Proposed Implementation Date: College requests early implementation date of Fall 2008.

Rationale of Requesting College: The reduction in clinical hours will not affect the student in obtaining the required number of hours or competency based requirements needed to sit for the Registered Cardiovascular Intervention Technology (RCIS) examination for either the associate or subsequent diploma. All students in the diploma and associate degree programs must successfully complete ICV 130 (ICV Clinical Ed III), ICV 220 (Clinical Ed IV) and ICV 230 (Clinical Ed V) to obtain their degree. ICV 130 is the basic course that ICV 220 builds upon.

_____ We have reviewed the proposed changes and **recommend** the adoption of these changes for **ICV 220** for the following reason(s):

_____ We concur with the rationale of the requesting college.

_____ Other: _____

_____ We have reviewed the proposed changes and **do not recommend** the adoption of these changes for **ICV 220** for the following reason(s): _____

_____ We do not offer **ICV 220** and wish to decline from making a recommendation.

College: _____

Signature of President: _____ **Date:** _____

Please return this form by **February 21, 2008** to:

Renee Batts, Coordinator
Program Services
NC Community College System
5016 Mail Service Center
Raleigh, NC 27699-5016
Fax Number: (919) 807-7164

College Recommendation
Course Revision Request
ICV 230 ICV Clinical Ed V

Current Course Information:

ICV 230	ICV Clinical Ed V	0	0	27	9
Prerequisites:	None				
Corequisites:	None				

This course provides the opportunity to apply knowledge gained from didactic instruction to the vascular interventional clinical environment. Emphasis is placed on patient care, radiation safety, recognition of vascular anatomy and pathology, equipment and imaging procedures and production. Upon completion, students should be able to demonstrate selected vascular procedures, basic ECG interpretation, preparation of sterile supplies, and maintenance of equipment and supplies.

Proposed Prerequisite: ICV 220

Proposed Hours: 0-0-24-8

Proposed Implementation Date: College requests early implementation of Fall 2008.

Rationale of Requesting College: The reduction in clinical hours will not affect the student in obtaining the required number of hours or competency based requirements needed to sit for the Registered Cardiovascular Intervention Technology (RCIS) examination for either the associate or subsequent diploma. The student will build upon the skills obtained in ICV 220 (Clinical Education IV) in this course.

_____ We have reviewed the proposed revisions and **recommend** their adoption for **ICV 230** for the following reason(s):

_____ We concur with the rationale of the requesting college.

_____ Other:

_____ We have reviewed the proposed changes and **do not recommend** their adoption for **ICV 230** for the following reason(s):

_____ We do not offer **ICV 230** and wish to decline from making a recommendation.

College: _____

Signature of President: _____ **Date:** _____

Please return this form by **February 21, 2008** to:

Renee Batts, Coordinator
Program Services
NC Community College System
5016 Mail Service Center
Raleigh, NC 27699-5016
Fax Number: (919) 807-7164

College Recommendation
Reply Form – Please Return By February 21, 2008
(Fax Number: 919-807-7164)

Curriculum Standard Revision Request: Interventional Cardiac and Vascular Technology (A45410)
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Proposed Revision

- Remove Physics Subject Area. ICV 114 (ICV Physics I) and ICV 214 (ICV Physics II) would be moved to Required Courses.
- Delete RAD 131 and RAD 231 from the core.
- Add Anatomy and Physiology Subject Area.
- The course revisions for ICV 216 (ICV Pharmacology), ICV 220 (ICV Clinical Ed IV) and ICV 230 (ICV Clinical Ed V) if approved by the Curriculum Review Committee, would automatically revise the standard.

Rationale of Requesting College: The ICV 114 (ICV Physics I) and ICV 214 (ICV Physics II) are more specific courses to the Interventional Cardiac and Vascular Technology Program. The content in these courses meets the educational requirements of fluoroscopy and digital/computerized imaging and image processing that student's need in their educational endeavors.

The addition of the Anatomy and Physiology subject area will assist in student retention and success.

Please indicate your recommendation below (check one):

_____ We have reviewed the proposed revision and **recommend** adoption.

_____ We have reviewed the proposed revision and **do not recommend** adoption for the following reason(s):

_____ We do not offer this program and wish to decline from making a recommendation.

College: _____

Signature of President: _____ **Date:** _____

Please return form to:

Renee Batts, Coordinator
Program Services
NC Community College System
5016 Mail Service Center
Raleigh, NC 27699-5016
Fax Number: (919) 807-7164