APPLICATION TO FACULTY COUNCIL COMMITTEE ON ACADEMIC PROGRAMS

April 20, 2010

PROPOSED INTERDISCIPLINARY MINOR IN FORENSIC BEHAVIORAL SCIENCE

The Department of Psychology and Criminology

The Department of Sociology and Criminology

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Table of Contents

	Section	Page
I.	Introduction A. Background B. The Rationale for a Forensics Behavioral Science Minor	1 4
II.	The Interdisciplinary Minor in Forensic Behavioral Science at John Carroll University	4
	A. The Faculty Who Will Teach in the Minor	7
	B. The Curriculum for the Minor	8
	C. Program Assessment	11
III.	Important Considerations for Implementation	
	A. Likely Markets for the Minor in Forensic Behavioral Science	15
	B. Projected Enrollment	16
	C. Projected Costs and Revenues	22
	D. The Coordinator's Responsibilities	27
	E. Program Committee Responsibilities	29
IV.	Appendices	

I. Introduction

- A. Background
- B. The Rationale for a Forensics Behavioral Science Minor

A. Background

The proposal of this Interdisciplinary Minor in Forensic Behavioral Science is a product of the collective efforts of two academic departments, the Department of Psychology and the Department of Sociology and Criminology. Both had been separately discussing the development of programs in forensics for our majors for some time prior to our collaboration for this proposal. Inter-departmental collaboration for this effort originally was suggested by the Dean of the College of Arts and Sciences. We already have created and offered many courses in forensic science and this proposal lists, organizes and formalizes these courses into an interdisciplinary minor. Over the years students have taken these courses and gone on to careers in criminal justice, criminology, criminalistics, forensic psychology, and forensics.

<u>Defining "Behavioral Forensics"</u>

The members of the Faculty Program Committee for the Interdisciplinary Minor in Forensic Behavioral Science have developed a proposal that emphasizes the behavioral components of forensic science. There are a number of areas within the general area of forensics. These include topics that range from the victim to the offender, from the biological and physiological to the psychological and social aspects. Thus, analytical fields under the general heading of "forensics" are based in a variety of disciplinary backgrounds; however, they all fall under the following broad definition:

"The word "forensic" means "pertaining to the law"; forensic science resolves legal issues by applying scientific principles to them." (Hall Dillon, Bureau of Labor Statistics) http://www.all-about-forensic-science.com/definition-of-forensic-science.html

The proposed minor will be studying forensics from the perspective of the behavioral sciences.

Current Forensics Programs in U.S. Universities

There is a growing interest in the US in the study of the forensic sciences (no doubt fuelled by a number of popular television series), as well as growing career opportunities, There are now more than 150 academic forensic programs in the US. In order to develop an academically sound and rigorous

minor we believed it was necessary to review existing programs. Of the 150 programs we identified 35 universities for further attention because their programs seemed strong and applicable to our own professional capabilities.

We then narrowed our analysis to just 9 colleges and universities that are comparable to John Carroll on one or more of the following dimensions:

- 1) They are a Jesuit institution;
- 2) They are an otherwise faith-based institution, and/or
- 3) They have taken an interdisciplinary or multi-disciplinary approach to program development.

Although our original listing of colleges and universities includes a number in the state of Ohio, none of these made our final list for consideration. The nine colleges and universities that served as exemplars for our program development are:

- 1) Canisius College
- 2) The University of Colorado
- 3) Hilbert College
- 4) Loyola University of Chicago
- 5) The University of Maryland
- 6) Methodist College
- 7) The University of Nevada
- 8) The University of South Carolina
- 9) St. Louis University

Our proposed minor compares favorably with these programs. We focus on the behavioral aspects of forensics and, as a mission-driven program, ethical issues related to the process of forensic science and its application in the criminal justice system.

Brief summaries of the forensics curricula of the following nine colleges and universities are included here:

Canisius College offers a minor in forensic psychology. Both the minor proposed for John Carroll and the minor in forensic psychology at Canisius require background course work in statistics and research methodology but do not require physical science courses beyond the institution's core requirement. The majority of the courses in both minors are criminal justice courses with an emphasis on ethics.

At **The University of Colorado** the forensics minor is located in the Department of Criminal Justice and requires only one specialized physical science course. The U. of C. also includes a range of courses that transcend the fundamental but potentially "mechanical" crime scene analysis course. Behavioral courses such as "Sexual Assault: Implications for Health Care",

"Psychosocial and Legal Aspects of Forensic Science", Violence and Human Rights Issues", and "Substance Abuse" are important courses in their curriculum. We have included courses currently offered in both the Department of Psychology and the Department of Sociology and Criminology that address forensics similarly.

We find that **Hilbert College** provides an excellent model for our efforts. The minor requires only 18 hours offered in three departments: criminal justice, psychology, and forensic science. These courses are primarily introductory and no special course work in physical science is required beyond the institutional core requirements. Currently, the Department of Psychology and the Department of Sociology and Criminology at John Carroll offer all of the fundamental course work found at Hilbert.

We include **Loyola University of Chicago** because it offers an undergraduate minor in forensic psychology through the departments of criminal justice and psychology with courses in "Criminal Courts and Law", "Criminal Procedure", and "Social, Legal, and Ethical Issues". Their program does not require any additional physical science beyond basic university requirements.

The **University of Maryland** offers an extensive (40 hour) Minor in Investigative Forensics with all courses offered in the College of Criminal Justice. We do not feel that we can offer a minor requiring this many credit hours. It is included as an example of a program flowing entirely from the social and behavioral sciences. Furthermore, their extensive attention to program assessment has strongly informed our proposed minor.

Methodist College provides another very good model for our efforts. They offer two "tracks" in forensic education. One track, a B.S. in justice studies with a concentration in forensic science, does not emphasize physical science while the other, a B.S. in chemistry with a concentration in forensic science does. The first option is very strong on course work in justice studies and forensic science. The second option is very strong in chemistry and mathematics and includes 18 credit hours of justice studies as well. The first option is a good model for our work, here.

The **University of Nevada's** interdisciplinary major offers a very good overall conceptualization of the general area of forensics. They have divided the forensic sciences into three general categories: Legal Systems, Scientific Techniques, and The Human Body. To date we have focused on developing one area of our own design, *forensic behavioral science*, which actually draws from each of the three categories constructed at the University of Nevada. The U. of N. approach to program assessment for this major as also informed our efforts in this area.

The **University of South Carolina** provides yet another attractive paradigm for approaching the creation of an interdisciplinary minor in forensics. reflects a true commitment to the liberal arts as well as the sciences. Their minor is comprised of courses drawn from American studies, law, philosophy, psychology, sociology, religion science, and public Students are required to take one class each from the administration. following categories of coursework: "The Individual in Society", "Social Class and Criminality", "The System of Criminal Justice", and "Crime and Punishment". This exposure to the breadth of liberal arts coursework serves as a model for our own efforts.

We include **St. Louis University** for its creative approach to the diversity of undergraduate students interested in forensics. At SLU, a certificate in forensic science is available to any major through the Department of Sociology and Criminal Justice. It is important for us that SLU's three versions of this certificate reflect the different requirements for students of different academic backgrounds: The certificate in forensic science for science majors (21 hours), for criminal justice majors (23 hours) and for all other majors (29 hours.)

(See Appendix A: Comparable Colleges and Universities)

As in the models provided by most of these institutions our proposed minor primarily addresses the topics of legal systems and criminal justice and is modified to suit the expertise of our own faculty. We give additional attention to behaviorally important aspects of criminal forensics that might not receive attention otherwise on campus. And, as a mission-driven program we give special attention to ethical issues related to the process of forensic science and its application in the criminal justice system.

Our proposal respects the diverse disciplinary expertise in forensics, the academic departments that house them, and the substantive areas of application in current practice.

B. The Rationale for a Forensic Behavioral Science Minor

Relevance to the Mission of the University

We believe that we have created a minor that:

- 1) contributes to the individual undergraduate's positive academic experience at John Carroll University,
- 2) prepares individuals with the necessary skills and knowledge to successfully pursue professional study in the field of forensics

3) is mission-consistent, preparing students in their personal lives and in their professional lives to help and serve others in the betterment of the world around us.

The mission of John Carroll University, the Jesuit University in Cleveland, is "To develop women and men with the knowledge and character to lead and serve." The purpose of the proposed Interdisciplinary Minor in Forensic Behavioral Science speaks to the heart of the University's mission. The minor prepares students interested in serving their community by teaching them ethical values, professional practices, theoretical knowledge, and research methodologies, which will improve their ability to address complex societal issues.

Relevance to the Operational Goals of the University

The proposed minor stands on four points:

- 1. <u>Enrollments</u>. With a seed money grant we have conducted a feasibility study for this minor proposed to begin in AY 2010-11. The results of this study show significant interest among current undergraduates. These data are used to project similar interest among current high school students and community college students. With this information we expect that numbers of new applications to the university will increase for the 2011 Academic Year as high school students recognize that their interest in forensic science can be met by our curriculum.
- 2. <u>Fiscal Cost-effectiveness & Stability</u>. The minor is designed to be cost-effective; ie, meeting as many costs as possible by using the existing resources of the participating academic departments. The minor has been constructed almost entirely by using courses that are already part of the university curriculum. For some courses we can expect that students attracted to the program in its first years will be absorbed into courses without course sections being added. Another key factor in the projected efficiency of this minor is that the curriculum begins without the immediate addition of full time faculty. The seed money grant has absorbed the start-up costs of the program to date. After that, declarations of students in the minor will continue to increase for the projectable future, increasing revenues.
- 3. Quality of the Program. This program has been developed as a complete learning experience for the students who are enrolled in it. Currently, John Carroll University does not offer a program in forensic behavioral science. Among the undergraduates who are majors and minor in the Department of Psychology and the Department of Sociology and Criminology, however, many have developed an interest in behavioral

forensic science and have taken the coursework we offer in the area. Many of our undergraduates go on to graduate schools. The intention of our faculty through this program is to link our good and well-prepared students to existing graduate programs in forensic science. The quality of the curriculum and the faculty that has offered it over the years will be the central feature of this minor. For the first time, however, the university and the student body will benefit from our collaborative effort to offer this curriculum.

4. <u>Impact on the Future</u>. The success of this program will be made in terms of its ability to shape the future. The preparation of "pre-professionals" in this field is an important step that can best be done at a private, liberal arts institution. John Carroll, as a Jesuit Institution, qualifies as a premiere institution in this regard. Careers in forensic behavioral science are now held by alumni who were shaped under our mission. In this way, this program is dedicated to making a positive difference in society.

Relevance to the Planning Goals of the University

In addition to meeting the mission of John Carroll University "To develop women and men with the knowledge and character to lead and serve...." the Interdisciplinary Minor in Forensic Behavioral Science meets four of the six strategic planning goals of the university to:

- 1. strengthen academic excellence,
- 2. enhance the university's sense of community both internally and externally,
- 3. attract and support a more diverse university community, and
- 4. increase the university's visibility and recognition.

Academic excellence is an integral part of the standards and curriculum development of this unique minor. This is a new minor that brings academic departments from two divisions of the university together to work in partnership toward the shared goal of excellence in education. The topic area is, we believe, appealing to a broad, diverse student body. And ultimately, the Interdisciplinary Minor in Forensic Behavioral Science can only help to increase the university's visibility and recognition as an educational leader in Northeastern Ohio.

II. The Interdisciplinary Minor in Forensic Behavioral Science at John Carroll University

- A. The Faculty Who Will Teach in the Minor
- B. The Curriculum for the Minor
- C. Program Assessment

A. The Faculty Who Will Teach in the Minor

The following faculty members are currently teaching courses that are proposed for the minor in forensic behavioral science. Dr. Dukes also has proposed a possible new course which will strengthen and complete the curriculum.

Richard Clark^{1,2} Department of Sociology & Criminology Ernest DeZolt² Department of Sociology & Criminology Duane Dukes³ Department of Sociology & Criminology Juan Hernandez⁴ Department of Sociology & Criminology Beth Martin² Department of Psychology Tracy Masterson² Department of Psychology David Rainey² Department of Psychology Elizabeth Swenson² Department of Psychology Dianna Taylor¹ Department of Philosophy

Daniel Winterich⁴ Department of Sociology & Criminology

No new full time or part time faculty are anticipated or proposed for the first three years of the program. However, it should be noted here that we anticipate that the program will be very successful in attracting students to John Carroll University. Fairly early in the program, probably by the second or third year, the department chairs will have to consider the use of additional

¹ Faculty member has team-taught a course proposed for the minor that is listed in the Undergraduate Student Bulletin and which has been recently offered.

² Full-time faculty member currently offering courses listed in the Undergraduate Student Bulletin that are proposed for the minor.

³ Faculty member proposing a new course for the minor not currently included in the departmental curriculum.

⁴ Part-time faculty member currently offering courses listed in the Undergraduate Student Bulletin that are proposed for the minor.

adjunct faculty for additional sections of highly demanded courses at the 200 level. By the fifth year we expect that the university may need an additional full time faculty member in the area of forensics.

B. The Curriculum for the Minor

SC499/PS499, the Capstone course.)

The course offerings for the minor break down into three conceptual areas: Theoretical Principles, Practice Related Skills, and Ethics Related courses.

The Courses in the Minor in Forensic Behavioral Science

Theoretical	Practice Related Skills	Ethics Related
Principles		
PS 370 - Forensic Psychology PS 435 - Tests &	SC 223 ^b – Forensics: Overview of Crime Scene Analysis	PS 471 – Seminar in Ethics in Psychology SC 300 – The Death Penalty
Measurements	PS 499 ^a – Internship &	SC 435 b – Law, Ethics, and
PS 457 – Psychopathology	Seminar in Forensic	Criminal Justice
PS 470 - Children in the	Behavioral Science	Policy
Legal System	•	
SC 220 – Criminal Justice Systems	Seminar in Forensic Behavioral Science	
SC 240 - Criminology	Dellavioral Science	
SC 343 - Drugs & Crime		
SC 365 – Corporate Crime		
SC 388 ^a – Forensic		
Science in		
Criminal Justice SC 440 – Violence &		
Society		
^a new course		
^b new course number and/o	or title	
nb; Courses for the Forensi	cs Behavioral Minor are not seque	ntial (except for

Page 8

Curriculum Requirements For the Forensic Behavioral Science Minor (24 cr.)

I. General Course Requirements (12 cr.)

All students must take the following courses:

- **A. SC 223** Forensic Crime Scene Analysis
- **B. PS 370** Forensic Psychology

-or -

SC 388 - Forensic Science in Criminal Justice

C. Ethics Related: SC 300 - Death Penalty,

-or-

SC 435 - Law, Ethics, and Criminal Justice Policy

PS 471 - Seminar in Ethics in Psychology

D. PS 499 – Internship in Forensic Psychology

or -

SC 499 - Internship in Forensic Sociology

II. Psychology Course Requirements (6 cr.)

All students must select **two additional courses** from the following list of courses (one of the two courses may be used to fill requirements for the major or minor in psychology.)

PS 435 – Tests & Measurements

PS 455 – Child and Adolescent Psychoathology

PS 457 – Psychopathology

PS 470 - Seminar: Children in the Legal System

PS 471 – Seminar in Ethics in Psychology

III. Sociology Course Requirements (6 cr.)

All students must select **two additional courses** from the following list of courses (one of the two courses may be used to fill requirements for the major or minor in sociology.)

SC 220 – Criminal Justice Systems

SC 240 – Criminology

SC 300 - Death Penalty

SC 343 - Drugs and Crime

SC 365 – Corporate Crime

SC 435 – Law, Ethics, and Criminal Justice Policy

SC 440 - Violence and Society

COURSES IN PSYCHOLOGY

- **PS 370 FORENSIC PSYCHOLOGY** Overview of the implications of psychological theory and methods for various legal issues and the legal perspective on some psychological issues. Social science research on legal topics such as confessions, eyewitness testimony, the jury, insanity, and competency. Focuses on the criminal justice system with some civil issues. No knowledge of the legal system is assumed. 3.0 Cr. SWENSON
- **PS 435 TESTS & MEASUREMENTS** Prerequisite: MT 122 or equivalent. Survey and evaluation of current psychological test theory. Test construction, reliability, validity, and frequently used psychological tests are covered. This is not a course in test administration. 3.0 Cr. MARTIN
- **PS 455 CHILD & ADOLESCENT PSYCHOPATHOLOGY** Prerequisite: PS 261 or PS 262. Conceptualization and definition of developmental psychopathology; the study of developmental processes that contribute to the formation of, or resistance to, psychopathology. Specific focus on the causes, assessment, and treatment of developmental and behavioral disturbances in infants, children and adolescents. Above all, this course aims to illuminate the mutual influences of psychopathology and normal developmental processes. 3.0 cr. MASTERSON
- **PS 457 PSYCHOPATHOLOGY** Theories and controversies about psychopathology and the etiology and symptoms of selected categories of emotional disturbance, with special reference to the current Diagnostic and Statistical Manual. 3.0 Cr. RAINEY
- **PS 470 CHILDREN IN THE LEGAL SYSTEM** Overview of relevant case and statutory law pertaining to children and families. Topics include parental rights, child protection, child custody, foster care, juvenile justice, children's rights, children in the courtroom, decision-making, and the termination of the parental relationship. A term paper and participation in a mock trial are required. 3.0 Crs. SWENSON
- **PS 471 SEMINAR IN ETHICS IN PSYCHOLOGY** Professional ethics in the field of psychology. Ethical dilemmas that confront mental health service providers and counselors, researchers, university-level educators, and those in psychology-related fields who work in other settings. Basis for the course is the American Psychological Association Ethical Principles of Psychologists and Code of Conduct and how it is useful in the analysis and resolution of ethical dilemmas. 3.0 Crs. SWENSON
- **PS 499 INTERNSHIP & SEMINAR IN FORENSIC BEHAVIORAL SCIENCE:** 3.0. This capstone course provides the opportunity for the student to apply theory, ethics, and practice skills in a professional setting with an integrative seminar.

COURSES IN SOCIOLOGY AND CRIMINOLOGY

SC 220 - CRIMINAL JUSTICE SYSTEMS Prerequisite: SC 101. Overview of the American system of criminal justice as an integrated process with focus on procedures and functions or system components, including law, police, prosecution, court, and corrections. 3.0 Crs. HERNANDEZ

- **SC 223 FORENSICS: OVERVIEW OF CRIME SCENE ANALYSIS**. No prerequisite. This course serves as an introduction to the practice of crime scene investigation and the field of forensic science. Students will learn about types of physical evidence, crime scene documentation, procedures, and subsequent scientific analyses.3.0 Crs. WINTERICH
- **SC 240 CRIMINOLOGY** Prerequisite: SC 101. Survey of sociological data and theories pertinent to the types and incidence of crime in America. 3.0 Crs. CLARK
- **SC 300 THE DEATH PENALTY** Prerequisite: SC 101. An interdisciplinary teamtaught class about the sociological and philosophical beliefs underlying support for the death penalty, nationally and internationally. Topics include the history of executions; legal changes in the death penalty process; public opinion; deterrence; living and working on death row; and human rights concerns. 3.0 Crs. CLARK & TAYLOR
- **SC 343 DRUGS AND CRIME** Prerequisite: SC 101. Introduction to the relationship between drugs and crime; law enforcement techniques used to reduce drug abuse; prevention and treatment; and the arguments for and against drug legalization. 3.0 Crs. CLARK
- **SC 365 CORPORATE CRIME** Prerequisite: SC 230 or 240. Analysis of moral issues in business from the perspective of organizational deviance; case analyses of corporate and governmental deviance. 3.0 Crs. DeZOLT
- **SC 388 FORENSIC SCIENCE IN CRIMINAL JUSTICE** This course addresses the use of research tools, research methodologies and rules of evidence in criminal forensics. 3.0 CRS. DUKES
- **SC 435 LAW, ETHICS AND CRIMINAL JUSTICE POLICY** Prerequisite. Interrelationship between law and its system of implementation; legal processes and institutional framework; social factors affecting practice in the criminal justice system. 3.0 Crs. DeZOLT
- **SC 440 VIOLENCE & SOCIETY** Prerequisites. Trends and patterns of violence in society, and its causes and consequences. Special attention to the influence of social environment, the impact of personal relationships and violence prevention. 3.0 Crs. CLARK
- **SC 499 INTERNSHIP & SEMINAR IN FORENSIC BEHAVIORAL SCIENCE** 3.0. This capstone course provides the opportunity for the student to apply theory, ethics, and practice skills in a professional setting with an integrative seminar.

C. Program Assessment

1. STUDENT LEARNING OUTCOMES

The assessment plan is a plan directed at assessing critical student learning outcomes. Students who complete this minor will be able to demonstrate:

- **A.** An understanding of the theoretical principles associated with forensic psychology, forensic criminology, and the criminal justice system.
- **B.** An understanding of practice-related skills associated with crime scene analysis, court testifying procedures, and internships.

- **C.** An understanding of in-depth knowledge of the social, political, and economic issues related to forensic behavioral science.
- **D.** An in-depth understanding of ethical issues related to the crime forensic relationship.

Each course in the minor addresses at least one of the learning outcomes of the minor. The following table displays the relationship of courses in the minor to the learning outcomes as we now see it.

COURSES Student Learning Outcomes

			COIIIC	
	A	В	С	D
Department of Psychology				
PS 370 – Forensic Psychology	X	X	X	
PS 435 - Tests & Measurements		X		
PS 455 – Child and Adolescent Psychopathology	X	X		X
PS 457 - Psychopathology	X	X	X	
PS 470 – Seminar: Children in the Legal System	X	X	X	X
PS 471 – Seminar in Ethics in Psychology	X	X	X	X
PS 499 – Internship in Forensic Psychology	X	X	X	X
Department of Sociology and Criminology				
SC 220 – Criminal Justice Systems	X		X	
SC 223 – Forensic Crime Scene Analysis	X	X		
SC 240 – Criminology	X		X	
SC 300 - The Death Penalty	X		X	X
SC 343 – Drugs and Crime	X		X	
SC 365 – Corporate Crime	X		X	
SC 388 – Forensic Science in Criminal Justice	X	X	X	
SC 435 – Law, Ethics, and Criminal Justice Policy	X	X	X	X
SC 440 – Violence and Society		X	X	X
SC 499 – Internship in Forensic Criminology	X	X	X	X

2. EVIDENCE USED FOR ASSESSING ATTAINMENT OF STUDENT LEARNING OUTCOMES

The courses offered in this minor address these learning outcomes as follows:

- Examinations
- Papers
- Other assignments

- Capstone portfolio identification of topic of research, description of research project or internship, final written report, instructor's written appraisal of success of project or performance during internship.
- Exit Interview/Questionnaire to be completed after the capstone course assessing that course and the program as a whole

A comprehensive program evaluation will include both qualitative and quantitative indicators. Indicators will link to the specific objectives and initiatives embedded in the minor.

Significant indicators related to program objectives are:

- Student Course Evaluations: Evaluations will focus on the course objectives and not serve as a rating of the faculty member. These assessment tools will be patterned after the evaluation tools utilized for Divisional Core Courses and Specialty-Designation courses. Specifically, student evaluations in this minor will focus more on how students determine the effectiveness of the courses in meeting the stated course objectives.
- Faculty Course Evaluations: As with the student course evaluations, the faculty course evaluations will focus on how the courses met stated course and program objectives, what worked well, and what the faculty member may want to change in the future.
- Students Served by the Minor: Data will be collected in three specific areas through analysis of university records and/or survey data from the students if necessary. First, we will compile Registrar's data on the number of students enrolled in the courses within the minor each semester. Second, we will track data from the Dean of the College of Arts and Sciences regarding the number of students declaring a minor in Forensic Behavioral Science.

3. DISSEMINATION OF INFORMATION OVER THE FIRST FIVE 5 YEARS OF THE MINOR.

Findings will be disseminated to principal stakeholders:

- Students in the minor
- The Dean of the Colleges of Arts and Sciences
- The Academic Vice President
- The Office of Assessment and Evaluation

We recognize that it is within their purview to distribute the information to their colleagues and the university and it is expected that this information will be the basis for discussion with or without the Coordinator and/or the department chairs present.

4. COMMENTS: Key to the success of this program

- It is important that this budget be annually funded where indicated in the proposal; its future success is based on building a programmatic and recruiting "platform" in the first three years.
- Administrative support no full time or part time staff are proposed; instead, we are requesting work-study student assistance. If there is an opportunity to share professional staff with other new minors in the university would be very helpful to the program. Even a part-time clerical worker would make a great difference in the ability to promote this new minor.
- We have proposed no new funding for equipment in laboratories and no new laboratories. We anticipate the possibility that equipment and laboratories could be needed by the fifth year.
- Funding in the fifth year is anticipated to be affected, also, by the participation of other departments of the university and will require additional discussion.

III. Important Considerations for Implementation

- A. Likely Markets for the Minor in Forensic Behavioral Science
- B. Projected Enrollment
- C. Projected Costs and Revenues
- D. The Coordinator's Responsibilities
- E. Program Committee Responsibilities

A. Likely Markets for the Minor in Forensic Behavioral Science

This minor is expected to be attractive to three specific markets:

- 1) Full time traditional high school students who are anticipating careers in criminal justice,
- 2) Potential transfer students currently attending community college in the area, and
- 3) Non-traditional students seeking degrees and seeking career advancement in their current area of criminal justice.
- 1) Traditional High School Students. Demand for educational opportunities in forensic science is clearly growing among U.S. high school students. Over the next three years approximately 34,000 students nationwide anticipate entering an undergraduate degree program with an emphasis in forensics. The Office of Enrollment at John Carroll University has shared with us some important data in this regard:

"Looking at College Board data, currently there are 27,068 high school students nationally graduating in either 2011, 2012, or 2013 who have taken any College Board exam (SAT, PSAT, AP) and have indicated an interest in studying forensic science and technology. They project this number to grow in their pool by 24% by August 31, 2010. "

Mr. Steve P. Vitatoe, Executive Director of Enrollment, John Carroll University
Email received February 8, 2010

Roughly 11,000 students will be available to the 150 programs in the U.S. for the academic year beginning fall 2011. Without this minor John Carroll University has a difficult time competing for these 11,000 students. With the minor we think we have a very good chance of

attracting the interest of a considerable number of these students. The data shown below in Section III.B allow us to reasonably project the number of incoming students for the next five years within the initial parameter set by the College Board data.

The College Board data suggest that there is real opportunity for a new program in the area of forensics in this country, today. It should not be assumed, however, that John Carroll will have immediate access to 70+ new students per year simply because we create a new minor in this area. Some high school students will not be exposed to our web presence; some will prefer other specific schools in their application process; some will not meet our application qualifications; and some will be interested in areas of forensics we do not cover. But the identified large pool of high school students now indicating interest in college level education in forensics strongly suggests our success in starting and building the Minor in Forensic Behavioral Science. Data presented in this section clearly show that we can successfully begin this minor with less than .5% of the high school applicant pool enrolling in the first two years of the program!

- 2) Students in Community Colleges. This is an important "sleeper" market. We have calculated possible enrollments from this source because it appears they will have a demonstrable effect on the overall revenues of the program. We should expect some students at community college who have an interest in forensics to transfer to John Carroll. Community Colleges in this region have associate's degrees in this area. The bachelor's degree from a respected local university would reflect greater knowledge and career potential than the associate's degree from a two-year program.
- 3) Non-traditional Students. This category includes individuals who are currently employed at a low level or are unemployed and/or that have little specific knowledge in this field but envision a career in the area. We expect that this is the softest market. Given the general economic conditions, today, we believe that some who want to enroll here will be unable to do so from a financial standpoint at this time. Therefore, we have not included them in our enrollment estimates. We expect to further examine this group in the future.

B. Projected Enrollment

Our starting point for the analysis of admissions at John Carroll is based on an assumption: we assume that as of spring 2010 no students have elected to attend John Carroll because of their interest in forensics. During the 2009-

2010 academic year the Department of Psychology has formalized an undergraduate forensic track for its majors; it is too soon, however, for this track to have recruited new students from high schools. During the 2009-2010 academic year the Department of Sociology revised its department name to the Department of Sociology and Criminology; the latter more accurately reflects our overall curricular offerings. Although we have offered coursework in criminal justice and forensics for some years, however, it has not been possible for students to formally "specialize" in these areas. Therefore, no new students could have been recruited by the university in these areas.

It follows from this assumption that once a formal minor in forensic behavioral science is created all students who are admitted to John Carroll expressing a prior interest in forensics will do so because of the existence of the minor and/or track in forensics, the advertisement of them, a web presence, and specific recruiting efforts of the Office of Enrollment and faculty in the Department of Psychology and the Department of Sociology and Criminology to represent the programs.

We conducted our own **Survey of John Carroll University Undergraduates** during late February and early March of this year. This survey was intended to: 1) identify potential interest of existing students in the program, 2) project possible interest in potential new students to the university in the next five years, and 3) assist the respective chairs of the Department of Psychology and the Department of Sociology and Criminology anticipate scheduling and staffing needs for the forensic minor.

This research was conducted using the on-line survey software, "Survey Monkey." All undergraduate students at John Carroll University were emailed and provided access to the electronically interactive questionnaire. When the individual respondent clicked an answer to one of our questions it was entered into our cumulative data base. The total number of students responding was relatively small but the response was strong and shows real student interest.

(See APPENDIX B: Undergraduate Student Survey Results)

We interpret that only those who are interested in forensics are likely to have taken the time to complete the survey. Students from nearly all majors of the university responded. The only majors not represented are Art History, Classical Languages, Computer Information Systems, Multi-Age Education, Engineering Physics, and World Literature.

Seventy-one of the responding students are majors in psychology or sociology and criminology; 55 are majors in the physical sciences; and 70 are majors in the school of business. While our data do not imply unanimity in the responses of these 196 students, these three "clusters" and the number of respondents in

each merit attention. The number of students in psychology and sociology/criminology expressing interest in the minor is expected. The number of students in the physical sciences and business surprised us; we did not expect this positive response to the minor until it was well under way, at least not until year three.

Overall, 253 of those responding indicate that they agree or strongly agree that John Carroll should offer an interdisciplinary minor in forensic behavioral science. 160 indicate that they would be interested in taking the minor. We cannot interpret these data to be representative of the general views held by students on campus; it is important, however, to note that there are 253 students on campus who think we should have a minor and 160 of them would elect to take it. We project hat between 15 and 25% of those who indicate that they will take the minor actually will in the first year.

This survey regarding the proposed minor in forensic behavioral science did have an important response in another way; more students than expected responded from some special categories. For example, 11 students from the Honors Program, 9 from Biochemistry and Molecular Biology, and 8 from Neuroscience responded to this survey. The quality of these students, their interest in this minor and the size of their response should all be noted.

The data suggest that there is strong interest on this campus even among students who did not come here to study forensics. These data are consistent with the College Board data that we have cited. They strongly suggest that a minor in forensic behavioral science both would attract students to the university and provide an attractive educational opportunity to those who are already at the university.

With these data as background we have projected the enrollments, revenues and costs of the minor. Our projections for enrollments in the first five years of this minor are as follows:

Discussion of Projected Enrollments (Years 1-5)

Overview of Enrollment Projections

We have projected enrollments with a number of facts and necessary assumptions built into our model. First, we identified four key categories of student based on their relationship to the university by registration: 1) the "Initial Cohort" of Psychology and Sociology/Criminology majors, 2) another pre-existing cohort of students already registered at the university prior to the initiation of the minor, 3) newly enrolled full-time students who declare the minor upon admission, and 4) transfer students who declare upon admission.

The principal reason for these distinctions is that categories (1) and (2) cannot be seen as generating income for the university but they certainly justify cost while categories (3) and (4) can be reasonably viewed as generating income by the guidelines given through the Academic Vice President's Office. Furthermore, enrollments in these categories are not expected to be evenly distributed and are expected to change at different rates, affecting cost.

We have estimated enrollments in such a fashion as to indicate what we think will be a reasonable projection. To do this we have provided both the best estimate for "Low Enrollment" and "High Enrollment." As a review of the discussions that follow and their associated appendices show, revenues and costs are dramatically affected in this consideration.

We also project enrollments over the two-to-four year span of students' stay with us. Throughout the model we assume a 10% attrition rate from the minor each year for all newly admitted first year students. We assume a 20% attrition rate for transfer students. We believe that these assumptions overestimate loss from the program and certainly loss from the university. At this time, however, the only mechanism we will have for identifying the number of students in the program and/or loss from the program will be advisement in the Office of the Minor.

The discussion of all of this in the following narrative (and the associated Appendix C) is necessarily complicated. So, we have included the two following tables that we think can quickly summarize our projections regarding annual admissions and cumulative enrollments.

SUMMARY: LOW AND HIGH ESTIMATIONS OF <u>TOTAL INITIAL</u> REGISTRATIONS* (FIRST FIVE YEARS)									
Prog	ıram	Prog	gram	Prog	gram	Prog	jram	Prog	ıram
Yea	ar 1	Yea	ar 2	Ye	Year 3 Year 4		Yea	ar 5	
Low	High	Low	High	Low	High	Low	High	Low	High
2 4 5 8 8 11 11 15 13 17									
* The	se data	projec	t those	new	admissi	ons and	transf	er stude	ents to

SUMMARY: LOW AND HIGH ESTIMATIONS OF TOTAL
ENROLLMENTS OF NEW AND TRANSFERRED STUDENTS* (FIRST
FIVE YEARS)

								1	
Prog	ıram	Prog	gram	Prog	gram	Prog	gram	Prog	ıram
Yea	ar 1	Yea	ar 2	Ye	ar 3	Yea	ar 4	Yea	ar 5
Low	High								
2	4	7	11	13	20	21	30	29	38

^{*} These data project those students who are <u>new admissions</u> and <u>transfer students</u> to the university <u>after Spring Semester 2010.</u>

YEAR 1 - (AY 2010-2011) – Estimated overall declarations of the minor in Forensic Behavioral Science in the first year are between 21 and 37 students. Between 19 and 33 of these students will come from existing John Carroll students, the great majority of which will be undergraduate students in psychology and sociology and criminology who are now tracking in criminology related courses. Approximately 30% of the majors and 40% of the minors in the Department of Sociology and Criminology are interested in criminology related courses. We estimate that between 10 and 18 of these sociology students will elect the Minor in Behavioral Forensic Science. Approximately five to seven students majoring in psychology are expected to elect the Minor in Behavioral Forensic Science; this number is expected to be suppressed because of the pre-existence of a Forensics Track within the psychology major. Another four to seven students from outside the behavioral sciences are expected to declare the minor.

In the first year there will be no dramatic change in the total enrollments at the university or in either of the participating departments due to the creation of the Minor in Forensic Behavioral Science. Few new students at John Carroll next year are expected to seek the minor in Forensic Behavioral Science. University undergraduate recruitment for 2010-2011 Academic Year has been completed at this time. We estimate the number of new incoming students in the first year at between two and four students. We count as program-related revenues only those revenues associated with new students who come to the university with a stated interest in forensics.

YEAR 2 – (AY 2011-2012) – New admissions and community college transfers continue to supplement the loss of the original cohort in the program. We project that between 28 and 45 students will be actively registered minors in Forensic Behavioral Science during the year. The great majority of these students (21 – 34) are in the original cohort. Between seven and eleven of

these will be newly registered or transfer students. Of these five to eight will be in their first year of the program. We also expect to see our first graduates from the program; between six and eight should receive their degrees this year.

YEAR 3 – (AY 2012-2013) – Between eight and eleven new students are expected to join us this year. This will bring the total number of new students in the program to between 13 and 20. We expect that there will be between 31 and 49 students in the program in the third year. Eight to sixteen from the original cohort are expected still to be in the program. In addition, in-house declarations of the minor from among existing John Carroll students is expected to increase to between ten and 14 students.

In Year 3 we should see increased admissions with students interested in Forensic Behavioral Science since current high school freshmen, sophomores and juniors will have been exposed to the relevant admissions-related software that carries information about our minor. We do not project this anticipated increase to be dramatic this year; we expect between five and seven students via this route. We expect between three and four new transfers from community colleges. Projected new enrollments in Year 3 are rapidly approaching the number remaining in the original cohort of graduation: we expect eight to 13 students to graduate.

YEAR 4 – (AY 2013-2014) – In Year 4 we expect to admit seven and nine new students and between four and six transfer students. The total number of students in the program is estimated to be between 35 and 50 students. The original cohort will have shrunk to between four and seven students. This is the last year that the original cohort will be represented in the program. In the fourth year post-admission declarations (10 to 12) are expected to exceed the number of first cohort students.

Also, for the first time the total number of new students and transfers in the program (21 – 30) is expected to exceed the combined number of original cohort and post admission declarations. At the end of the year we expect that between eight and thirteen students will graduate from the program.

YEAR 5 – (AY 2014-2015) – In the fifth year we expect between eight to ten new admissions and five to seven transfers. We expect a total of between 39 and 52 total students in the minor. Student participation is expected to expand by this time to include majors outside the social and behavioral sciences, especially in the physical sciences. We expect to see between eleven and 13 post-admission declarations overall in Year 5. We estimate from five to six of these students will be majors in biology or chemistry; the remaining six to seven students will be majors in psychology or

sociology/criminology.) We are not counting their tuition value because they are already students at John Carroll.

It is even more significant for the university that the overall number of new admissions and transfers can be projected as between 29 and 38 students. All of the original cohort will have graduated. The program will now be comprised of three sources: Post Admission Declarations, New Admissions to the University, and Transfers from Community Colleges. New Admissions and Transfers are expected to comprise the majority of the students in the minor. These are the students from whom we project revenues not otherwise received by the university. We anticipate graduating from seven to twelve students from the program at the end of the fifth year.

(See APPENDIX C: Estimated Enrollments - First Five Years of the Minor)

New Admissions and Transfers from community colleges appear to begin to plateau in the Fifth Year. We expect enrollments in this program to be sustained beyond this but it is not reasonable to attempt a projection, here.

C. Projected Costs and Revenues

As the program grows in enrollments so will its costs and revenues. We estimate revenues using the simple formula provided through the Office of the Academic Vice President. In that formula revenue is a direct function of enrollment. The formula provided for us by the Academic Vice President is Revenue = (total number of students) X \$14,000.

Discussion of Projected Revenues (Years 1-5)

- **YEAR 1 -** (AY 2010-2011) We project that we will net between approximately \$28,000 and \$56,000 (between \$12,950 and \$35,200 after expenses) in the first full year of the program. The total net is low but is positive for the first year. This number is based on just a few new students coming to the university for the program.
- **YEAR 2** (AY 2011-2012) These numbers are expected to jump dramatically in the second full year of the program. We expect to net between \$93,800 and \$159,600 (between \$75,500 and \$122,450 after expenses) in the second year. This growth expectation is based on the initial anticipated success of recruitment efforts in the Enrollment Office. Almost all of these students will be full-time traditional students.
- **YEAR 3** (AY 2012-2013) In the third year, income will continue to increase. We expect to net between \$183,540 and \$273,280 (between

\$153,140 and \$233,480 after costs) in the third year. The dramatic increase in net income will come from the development of an additional body of new students, transfer students from local community colleges.

- **YEAR 4** (AY 2013-2014) Continued development of these two fundamental sources of students into the fourth year is expected to generate between \$294,826 and \$420,112 (between \$256,726 and \$369,812 after costs). By year four we are counting the majority of participants in the minor as "new," having been recruited and admitted to the university as a consequence of the program.
- **YEAR 5** (AY 2014-2015) Finally, our last year of reasonable projection is the fifth year. We think it is reasonable to expect that the minor will produce between \$402,318 and \$537,810 (between \$362.968 and \$486,850 after costs.) (*NOTE:* These numbers do not include, however, the probable need to request one full time faculty member and the addition of some adjunct faculty which, by this time in the program. If these are approved the net totals will drop by about \$150,000 to between \$210,000 and \$335,000.)

(See Appendix D: Projected Revenues for the First Five Years of the Minor)

Discussion of Projected Costs (Years 1-5)

The calculation of costs in this model is based on seven areas that are fundamental to the operation of any academic program:

- 1. Staffing
- 2. Recruiting
- 3. Retention
- 4. Program Administration

- 5. Program Development
- 6. Placement
- 7. Office Resources

The discussion that follows provides more detail regarding the contents and specific costs within these categories. This budget request is not made using the standard line items available to university offices since we were not provided this as a guideline for the proposal. Instead, these areas are organized into three categories: 1) The Minor Program, 2) The Participating Academic Departments, and 3) Other Administrative Offices of the University. This format has emerged in our work on cost estimation as important because of the ability and/or need to address cost across departments.

Office of the Minor	The Participating Academic Departments	Other Administrative Offices
Director Stipend Work Study Asst. (per student) Office Supplies Computer(s) Comm. Coll. Meetings Meet w/ Local Grad Progs. Meet w/ Nat'l. Grad Progs. Professional Travel Professional Assocs. Professional Meetings Certification Costs	Director, Teaching (Summer) Adjunct Instructors (per course) Library	Advertising (per ad) Brochures Web Site & Video Stu. Info. Meetings Student Reception(s) Speaker(s)
Accreditation Costs		

Appendix E serves as a budget detail for this discussion with all items listed in the left-most column and assigned a "unit cost." While some items appear as expenses every year, many do not. Also, in some years some items appear as expenses in multiple units.

Both "high costs" and "low costs" are calculated for each of the first five years of the program. This proposal has attempted to present all anticipated costs to the university associated with the implementation and operation of the program both at start-up and in operation over the next five years. The costs are presented in this proposal as "phase-ins" as the program grows. This approach reflects the growing needs of the program over time, and the ability of the program to cover these costs through increased enrollments.

Note: While the "low cost" model would seem to be the obvious model of choice it is expected that the election of the low cost model will necessarily yield lower revenue results. Therefore, we are requesting that serious consideration be given to the "high cost model" for implementation of this program.

	LOW AND HIGH ESTIMATES OF TOTAL COSTS* (FIRST FIVE YEARS)								
Progran	n Year 1	Progran	n Year 2	Progra	m Year	Progra	m Year	Progra	m Year
Low	High	Low	High	Low	High	Low	High	Low	High
\$15.1 \$20.8 \$18.3 \$37.2 \$30.4 \$39.8 \$38.1 \$50.3 \$39.4 \$50.0									
* In the	* In thousands of dollars								

- **YEAR 1 -** (AY 2010-2011) Costs are estimated to be between \$15,100 and \$20,800. The major differences in these two numbers come in the following areas: 1) work-study assistance, 2) meetings with students at community colleges, 3) advertisement of the program and 4) an on-campus reception for new students in the minor. The "Low Cost" version might work in Year 1; it reduces the risk to the university which is greatest in the first year. But these additional items are a real asset when starting a program.
- **YEAR 2** (AY 2011-2012) Costs are estimated between \$18,300 and \$37,200. In addition to the cost differentials in Year 1, note that a computer and professional expenses are included. By Year 2 we anticipate that the program will be "picking up steam" through the active efforts of the university to promote it to a receptive market, Work Study staff will be important to managing a busier office. And, since more course sections are anticipated, we have added one Adjunct position. We now recommend highly that the "High Cost" option be pursued.
- **YEAR 3** (AY 2012-2013) Costs are estimated at between \$30,400 and \$36,750. The "High Cost" option is actually a little lower than in Year 2 because some costs are not annual. Putting university resources behind the program will keep it growing as projected, however, with revenues far exceeding costs
- **YEAR 4** (AY 2013-2014) Costs are estimated at between \$38,100 and \$50,300. This is an expensive year because even the "Low Cost" option includes the costs of the important professional activities related to promoting the program, recruiting, retaining and placing students. Recalling the discussion of anticipated enrollments, and their place in the matriculation process the work of the office is anticipated to appropriately turn some of its attention in these directions as well as to the work of recruitment in the previous years.

YEAR 5 – (AY 2014-2015) – Costs are estimated at between \$39,400 and \$50,000. This program plateaus in Year 5. In this year the "High Cost" option is at its highest. The "Low Cost" option is actually providing very much for the on-going success of the program. It includes some important costs related to staffing and faculty. IMPORTANT NOTE: It does not include estimated costs of certification and accreditation. Nor does it include the anticipated "luxury" of an on-campus speaker's program as a part of student retention.

The complexity of this five-year projection and the assumptions underlying it are necessary. However, it is likely that the projections are less reliable with distance in time. We believe that the clearest projection is the first-year estimate. However, we also believe that the program will grow dramatically and sufficiently that the item requests of year-one will not be adequate for the following years of the program.

For the sake of clarity, however, we have included the first-year budget request (the "Estimated Costs – High" column), below. These costs are broken into those which are requested for the operation of the office and the direct activities of the Coordinator to recruit, advise, retain and place students in internships and graduate programs.

Budget Request – Interdisciplinary Minor in Forensic Behavioral Science: Program Year 1 (AY 2010-11) Office for the Minor

	EST. COSTS HIGH	EST. COSTS LOW
Director Stipend	\$5,000	\$5,000
Work Study Asst.	\$1,500	\$0
Office Supplies	\$500	\$500
Computer(s)	\$0	\$0
Comm. Coll. Meetings	\$500	\$0
Meet w/ Local Grad Programs	\$0	\$0
Meet w/ Nat'l. Grad Programs	\$0	\$0
Professional Travel	\$0	\$0
Professional Assocs.	\$0	\$0
Professional Meetings	\$0	\$0
Certification Costs	\$0	\$0
Accreditation Costs	\$0	\$0
SUBTOTAL	\$7,500	\$5,500

(CONTINUED, NEXT PAGE)

Academic Department Budgets: Year 1 (AY 2010-11)

	EST. COSTS HIGH	EST. COSTS LOW
Director, Teaching	\$0	\$0
Adjunct Instructors	\$6,800	\$6,800
Library	\$750	\$750
SUBTOT	AL \$7.550	\$7.550

Administrative Offices: Program Year 1 (AY 2010-11)

	EST. COSTS HIGH	EST. COSTS LOW
Advertising	\$4,500	\$1,500
Brochures	\$250	\$250
Web Site & Video	\$250	\$0
Stu. Info. Meetings	\$250	\$250
Student Reception(s)	\$500	\$0
Speaker(s)	\$0	\$0
SUBTOTAL	\$5.750	\$2.000

TOTAL: Program Year 1: AY 2010-11

EST. COSTS HIGH EST. COSTS LOW

\$20,800 \$15,050

(See APPENDIX E: Recommended Program Costs (All Sources) - First Five Years of the Minor)

D. The Coordinator's Responsibilities

1. Staffing

Office Personnel – staffing proposed for the first year of the minor at this time is work study assistance. The Coordinator will hire, supervise and evaluate these students following university practices and procedures. While the proposal through the fifth year is written in terms of work study students, this request should be re-evaluated early in the program in terms of the needs of this program and other programs. It may be appropriate to consider shared full time staff at that time.

<u>Adjunct Instructors</u> – instruction for Part Time and Summer Instructors will be hired by the chairpersons of the two participating departments with consultation by the Coordinator.

- 2. Recruiting The Coordinator has principal responsibility to work directly with the respective offices of the university that are engaged in Recruitment and Advertising. We have included a number of items in the budget that are dedicated to efforts in these areas, including funds for the development of Brochures, a Web presence & Video about the program. A budget line is also included for individual meetings with faculty and students at local community colleges. The Coordinator is responsible for this effort with assistance from members of the program committee when possible.
- 3. Retention The Coordinator will be responsible for student advisement during the first two years of the minor. (Anticipated growth of the program by the third year will require this commitment to be reevaluated in the second year. If growth is as anticipated, voluntary advisement of 2-3 students each will be requested of Program Committee members.) Problems and suggestions with advisement and any issues regarding the availability of accurate listings of minors will be addressed and discussed with the department chairs and Deans prior to involving the Program Committee.

We also have requested budget lines that will provide for larger scale events and information-related activities throughout the academic year, including a speaker series. The Coordinator is responsible for arranging, scheduling, and coordinating these events. The Coordinator will work with the administrative offices of the university to advertise and promote these events. (It should be noted that these events are listed as optional and are not a part of the "Low Cost" version of the program.)

- 4. <u>Program Administration & Developing Internship Sites</u> The Coordinator will, with the department chairs, implement a three year course cycle. The coordinator will also be responsible for developing the contacts in the community for the internship sites.
- 5. Program Development This program is envisioned as having real potential to provide recognition for the university. For that to happen, we have budgeted in two significant areas: 1) attendance and participation at professional meetings, and 2) the costs of certification and accreditation in the area of fofensics. These costs are estimated. The responsibility for guiding and coordinating the effort belongs with the Coordinator. (It should be noted that these events are listed as optional and are not a part of the "Low Cost" version of the program.)

E. Program Committee Responsibilities

The Program Committee is comprised of the full time faculty teaching in the minor and the chairs of the two participating departments. This group will meet each semester to discuss the progress of the program. Contributions from the participating faculty will be at a number of levels, including discussion of individual courses, content and delivery as well as more macro analyses of how the program is configured, managed, and administered.