Table of contents:

THE UNIVERSITY OF ARIZONA

New Academic Program Workflow Form

General

Proposed Name: Intel & Information Operations

Transaction Nbr: 00000000000040

Plan Type: Major

Academic Career: Undergraduate

Degree Offered: Bachelor of Applied Science

Do you want to offer a minor? N

Anticipated 1st Admission Term: Sum 2020

Details

Department(s):

UAZS

DEPTMNT ID	DEPARTMENT NAME	HOST
2910	College of Applied Science and Technology	Y

Campus(es):

DIST

LOCATION	DESCRIPTION
CHANDLER	Chandler
YUMA	Yuma

ONLN

LOCATION	DESCRIPTION
ONLN	UA Online

SOUTH

LOCATION	DESCRIPTION
DOUGLAS	Douglas
NOGALES	Nogales
PIMACCEAST	Pima Community College East

LOCATION	DESCRIPTION
SIERRAVSTA	Sierra Vista

Admission application terms for this plan: Spring: Y Summer: Y Fall: Y

Plan admission types:

Freshman: N Transfer: Y Readmit: Y Graduate: N

Non Degree Certificate (UCRT only): N

Other (For Community Campus specifics): N

Plan Taxonomy: 29.0202, Strategic Intelligence.

Program Length Type: Program Length Value: 0.00

Report as NSC Program:

SULA Special Program:

Print Option:

Diploma: Y Intelligence and Information Operations

Transcript: Y Bachelor of Applied Science in Intelligence and Information Operations

Conditions for Admission/Declaration for this Major:

The Intelligence & Information Operations program requires a supplemental program application in
addition to admission to The University of Arizona. The entrance requirements include:
Minimum 2.5 GPA in your college coursework
Resume
Goal Statement

Requirements for Accreditation:

N/A

Program Comparisons

University Appropriateness

The BAS in Intelligence and Information Operations is consistent with Pillar I of the University of Arizona Strategic plan by preparing students with the skills and mindsets in a critical area of the 4th Industrial Revolution, i.e, preparing the nation's intelligence professionals to meet the challenges of cyber and information warfare. The program also clearly advances Pillar III, by advancing

the land grant mission- a central aspect of the CAST's focus. This program will be offered at locations throughout Arizona and in AZ Online, making a highly sought-after degree available to students throughout the state and the country. The BAS in Intelligence and Information Operations is most appropriately offered by UA South for several reasons. CAST received recognition of its existing BAS with an emphasis in Intelligence Studies program as an Intelligence Community Center of Academic Excellence. This designation was accompanied by a grant from the Defense Intelligence Agency to convert the existing program into a BAS in Intelligence and Information Operations. CAST is the only college at the University of Arizona currently offering Bachelor of Applied Science degree programs, and this proposed program fits within the college's strategic plan of offering innovative, relevant, affordable, flexible and career-ready degree programs in areas where employment opportunities are increasing. Finally, CAST's proximity to Fort Huachuca and the resident Intelligence Community makes it the natural home for this degree.

Arizona University System

NBR	PROGRAM	DEGREE	#STDNTS	LOCATION	ACCRDT
1	Intelligence Studies	BAPS	2	NAU (online & Yuma)	Y

Peer Comparison

Although there are programs with similar titles at two public peer institutions, those programs are not truly comparable to the proposed BAS in Intelligence and Information Operations. The shift in the focus of the program from pure Intelligence Studies to Intelligence and Information Operations as well as the national recognition gained from the Defense Intelligence Agency Intelligence Community Center of Academic Excellence sets our program apart from any similarly titled peer institution program. The Department of Defense and its Intelligence Community partners have begun to merge their Cyber, Intelligence, and Information Operations capabilities to counter new threats who have shifted away from directly challenging US forces to a less risky hybrid warfare model. The DoD and IC are in the infancy of this transition and are still developing the tactics, techniques, procedures, and doctrine on how to operate and fight in the new operational environment. Our program was selected as the number one IC-CAE designee in the Nation by the Defense Intelligence Agency (DIA) specifically because our program addresses this need. Moreover, the Law Enforcement Intelligence emphasis will also directly address one of the fastest growing career options within Federal, State, and local law enforcement. Joint agency law enforcement Intelligence fusion centers are being established across the nation, requiring law enforcement professionals to possess not only the knowledge, skills, and abilities to perform as an analyst but typically also requires a four year degree in order to be minimally qualified. All three subplans in our proposed degree program meet these challenges in a way that traditional Intelligence Studies programs do not.

Faculty & Resources

Faculty

Current Faculty:

INSTR ID	NAME	DEPT	RANK	DEGREE	FCLTY/%
22071416	Jason Denno	2910	Instructor	Master of Science	.30
22081465	Harry Cooper	2910	Adj. Instor.	Master of Science	.30
22054261	Jon Dorschner	2910	Adj. Instor.	Doctor of Philosophy	.30
22067179	Tierra Stimson	2910	Assit. Prof. Pract.	Doctor of Philosophy	.20
22085084	Patrick Tortorici	2910	Adj. Instor.	Doctor of Philosophy	.20
22082100	Robert Batey	2910	Adj. Instor.	Juris Doctor	.30
22080699	Heidi Calhoun-lopez	2910	Adj. Instor.	Juris Doctor	.30
22082139	Katherine Mabbett	2910	Adj. Instor.	Master of Science	.20
22084985	Craig Nazareth	2910	Adj. Instor.	Master Prof Studies	.30
22081483	Troy Ward	2910	Adj. Instor.	Master of Science	.30
23219284	Randi Buros	2910	Adj. Instor.	Master of Education	.30
14705340	Christopher Hilliard	2910	Adj. Instor.	Master of Arts	.30
22085226	John Mccary	2910	Adj. Instor.	Master of Arts	.30
22061286	Krista Ochs	2910	Adj. Instor.	Master of Arts	.30
23232114	James Schroeder	2910	Adj. Instor.	Master of Arts	.30
04009935	Todd Lutes	2910	Assoc. Prof	Doctor of Philosophy	.50
12104529	Sandra Moore	2910	Assit. Prof	Master of Science	.20
22078226	Paul Wagner	2910	Assit. Prof. Pract.	Master of Science	.20
22082788	Luis Cruz	2910	Adj. Instor.	Master of Arts	.30
22085016	Cheryl Morgan	2910	Adj. Instor.	Master of Science	.20

Additional Faculty:

We currently have an open posting for 1 FTE full time faculty member. It is anticipated that if current growth continues, we will hire a 1 FTE per year, for the next two years.

Current Student & Faculty FTE

DEPARTMENT	UGRD HEAD COUNT	GRAD HEAD COUNT	FACULTY FTE
2910	86	0	5.60

Projected Student & Faculty FTE

	UGRD HEAD COUNT			GRAD HEAD COUNT			FACULTY FTE		
DEPT	YR 1	YR 2	YR 3	YR 1	YR 2	YR 3	YR 1	YR 2	YR 3
UAZS	125	160	195	0	0	0	6.60	7.60	8.60

Library

Acquisitions Needed:

n/a

Physical Facilities & Equipment

Existing Physical Facilities:

Several courses in this program will utilize the existing cyber virtual learning environment, currently operated by CAST.

Additional Facilities Required & Anticipated:

n/a

Other Support

Other Support Currently Available:

The BAS in Intelligence and Information Operations is currently supported by the CAST office, which provides advising to students, as well as by general university support staff in scheduling, instructional design, enrollment services, etc.

Other Support Needed over the Next Three Years:

No anticipated need for additional staff.

Comments During Approval Process

9/23/2019 9:40 AM

EHENLEY

Comments
Please print subplan on transcript and diploma.

9/23/2019 10:36 AM

SWIELAND

Comments
Approved.

9/23/2019 3:46 PM

LDENNO

Comments
Approved.

10/7/2019 3:26 PM

MARTINMARQUEZ

Comments
Uploaded letter of support sent by Esther Henley.

10/14/2019 8:31 AM

HAUFF

Comments
Approved.

10/14/2019 5:00 PM

MARTINMARQUEZ

Comments
Re-uploaded letter of support sent by Esther Henley, pdf read issues.

10/17/2019 4:15 PM

MARTINMARQUEZ

Comments
Corrected upside-down question mark PeopleSoft error in the relevant fields.

12/2/2019 10:21 AM

MARTINMARQUEZ

Comments
Uploaded updated Additional Information Form, per Linda Denno.

THE UNIVERSITY OF ARIZONA

NEW ACADEMIC PROGRAM-UNDERGRADUATE MAJOR
ADDITIONAL INFORMATION FORM

I. PURPOSE AND NATURE OF THE MAJOR–provide a description for the proposed program. Include the purpose, nature, and highlights. The description will be displayed on the advisement report and should match departmental and college websites, handouts, promotional materials, etc.

The BAS in Intelligence and Information Operations prepares graduates for occupations in defense; the Intelligence Community; federal, state, and local law enforcement; and private industry. The curriculum includes intelligence operations, information warfare, and cybersecurity content delivered within our state-of-the-art Virtual Learning Environment to ensure our students have extensive hands-on experiences to develop the knowledge, skills, and abilities necessary to succeed after they graduate. The BAS degree in Intelligence & Information Operations offers three subplans, both in-person and fully online: Operational Intelligence, Law Enforcement Intelligence, or Information Warfare.

II. MAJOR REQUIREMENTS– complete the table below to list the major requirements, including minimum number of credit hours, required core, electives, and any special requirements, including sub-plans, theses, internships, etc. Note: information in this section must be consistent throughout the proposal documents (comparison charts, department checklists, curricular/assessment map, etc.). Delete the EXAMPLE column before submitting/uploading. Complete table found in Appendix A if requesting a corresponding minor.

Total units required to complete degree	120 Units
Upper-division units required to complete degree	45 Units for students with an AAS from an Arizona Community College or the CCAF -Or- 60 Units
Foundation courses	
Second language	2nd Semester Foreign Language Proficiency
Math	BASV314 Mathematics for Applied Sciences
General education requirements	TIER II GENERAL EDUCATION (21 Units) Natural Sciences (3 Units)

	Arts and Humanities (6 Units) Individuals and Societies (12 Units) Diversity Requirement
Pre-major? (Yes/No. If yes, provide requirements). Provide email(s)/letter(s) of support from home department head(s) for courses not owned by your department.	No
List any special requirements to declare or gain admission to this major (completion of specific coursework, minimum GPA, interview, application, etc.)	The BAS in Intelligence & Information Operations is a transfer degree offering only upper division coursework. Per ABOR policy, all AAS degrees are accepted as a block for admission into the program. The Intelligence & Information Operations program requires a supplemental program application in addition to admission to The University of Arizona. The entrance requirements include: • Minimum 2.5 GPA in your college coursework • Resume • Goal statement
Major requirements	
Minimum # of units required in major (units counting towards major units and major GPA)	42 Units
Minimum # of upper-division units required in the major (upper division units counting towards major GPA)	30 Units
Minimum # of residency units to be completed in the major	30 Units
Required supporting coursework (courses that do not count towards major units and major GPA, but are required for the major). Courses listed must include subject code, units, and title. Include any limits/restrictions needed (house number limit, etc.). Provide email(s)/letter(s) of support from home department head(s) for courses not owned by your department.	N/A

Major requirements (list all required major coursework including major core, major electives, sub-plan core, and sub-plan electives; courses count towards major units and major GPA) Courses listed must include course prefix, number, units, and title. Mark new coursework (New). Include any limits/restrictions needed (house number limit, etc.). Provide email(s)/letter(s) of support from home department head(s) for courses not owned by your department.	**<u>BAS in Intelligence & Information Operations Core (30 units)</u>** BASV314 Mathematics for Applied Sciences (3 Units) CYBV329 Cyber Ethics (3 units) INTV350 Collection Operations (3 units) CYBV450 Information Warfare (3 units) ENGV306 Advanced Composition (3 units) GPSV301 American Political Ideas (3 units) INTV305 Introduction to Intelligence & Information Operations (3 units) INTV326 Introductory Methods of Intelligence Analysis (3 units) INTV459 Intelligence, Surveillance & Reconnaissance Synchronization (3 units) INTV498 Senior Capstone (3 units) **Operational Intelligence Subplan (12 units)** INTV455 Target Centric Analysis (3 units) INTV471 National Security & Intelligence (3 units) ***Choose 2*** (New) CYBV351 Signals Intelligence & Electronic Warfare (3 units) CYBV354 Principles of Open Source Intelligence (3 units) CYBV473 Violent Python (3 units) (New) CYBV474 Advanced Analytics for Security Operations (3 units) CYBV479 Wireless Networking & Security (3 units) CYBV496 Special Topics in Cyber Security (3 units) ECE340A Introduction to Communications (3 units) INTV496 Special Topics in Regional Politics and Security (3 units) INTV314 National Security Policy (3 units) INTV443 Armed Conflict & Conflict Management (3 units) INTV473 National Security Operations & Issues (3 units) INTV474 Politics of Terrorism (3 units) INTV493 Internship in Intelligence & Information Operations (3 units) INTV496 Special Topics in Intelligence & Information Operations (3 units) RNR335 Introduction to Geospatial Concepts and Defense Applications (3 units) **Law Enforcement Intelligence Subplan (12 units)** CYBV388 Cyber Investigations & Forensics (3 units)

	NETV477 Advanced Computer Forensics (3 units) ***Choose 2*** CYBV435 Cyber Threat Intelligence (3 units) CYBV436 Counter Cyber Threat Intelligence (3 units) (New) CYBV440 Digital Espionage (3 units) (New) CYBV441 Cyber War, Terror & Crime (3 units) CYBV496 Special Topics in Cyber Security (3 units) GPSV313 The American Judicial System (3 units) GPSV388 Immigration & Refugee Policy (3 units) GPSV461 Civil Liberties and the U.S. Constitution (3 units) GPSV496 Special Topics in Regional Politics and Security (3 units) INTV442 International Law (3 units) INTV474 Politics of Terrorism (3 units) INTV493 Internship in Intelligence & Information Operations (3 units) INTV496 Special Topics in Intelligence & Information Operations (3 units) **Information Warfare Subplan (12 units)** CYBV354 Principles of Open Source Intelligence (3 units) CYBV437 Deception, Counter-Deception & Counter-Intelligence (3 units) ***Choose 2*** CYBV435 Cyber Threat Intelligence (3 units) CYBV436 Counter Cyber Threat Intelligence (3 units) (New) CYBV441 Cyber War, Terror & Crime (3 units) CYBV496 Special Topics in Cyber Security (3 units) GPSV496 Special Topics in Regional Politics and Security (3 units) INTV314 National Security Policy (3 units) INTV442 International Law (3 units) INTV443 Armed Conflict & Conflict Management (3 units) INTV471 National Security & Intelligence (3 units) INTV473 National Security Operations & Issues (3 units) INTV474 Politics of Terrorism (3 units) INTV493 Internship in Intelligence & Information Operations (3 units) INTV496 Special Topics in Intelligence & Information Operations (3 units)

Internship, practicum, applied course requirements (Yes/No. If yes, provide description)	Yes. Students must complete INTV498, Senior Capstone, with a minimum 45 hour student engagement experience.
Senior thesis or senior project required (Yes/No. If yes, provide description)	Yes. Students engage in a senior project and write a senior project thesis paper as part of the INTV498—Senior Capstone.
Additional requirements (provide description)	Students must earn a minimum 2.0 major GPA.
Minor (specify if optional or required)	Optional
Any double-dipping restrictions? (Yes/No. If yes, provide description)	Yes. Students can double-dip BASV 314, CYBV 329, ENGV 306, INTV 301, and up to six units in the subplan.

III. CURRENT COURSES–using the table below, list existing courses included in the proposed major. If the courses listed belong to a department that is not a signed party to this implementation request, upload the department head's permission to include the courses in the proposed program and information regarding accessibility to and frequency of offerings for the course(s). Upload letters of support/emails from department heads to the "Letter(s) of Support" field on the UAccess workflow. Add rows to the table, as needed.

Course prefix and number (include cross-listings)	Units	Title	Course Description	Pre-requisites	Modes of delivery (online, in-person, hybrid)	Typically Offered (F, W, Sp, Su)	Dept signed party to proposal? (Yes/No)
BASV314	3	Mathematics for Applied Science	This course will examine applications of probability, statistics, data analysis, hypothesis testing, apportionment and scheduling to the applied sciences. Registration requires a passing grade on the UA South BAS Math Readiness test.	Students must be admitted to the UA South BAS Program or consent of instructor	Online, In-person, Hybrid	F, Sp, Su	Yes
CYBV329	3	Cyber Ethics	A sustained study of ethical issues that arise in relation to employment in the public and	None	Online, In-person, Hybrid	F, Sp, Su	Yes

			private sectors, including allocation of resources, corporate and social responsibility, relationships, and discrimination. This course is a designated writing emphasis course. A main focus of this course will be on the ethical and legal standards governing information technology. New technology creates ethical challenges for individuals around the globe, and applies to most persons regardless of whether they are employed in the information technology field or a more traditional occupation.				
CYBV354	3	Principles of Open Source Intelligence	Provides students with an overview of the fundamentals of Open Source Intelligence. Students will be presented with the most effective methodologies used by cyber professionals, law enforcement, and other investigative personnel to locate and analyze information on the Internet and Dark Web. Students will use interactive exercises to become familiar with the volume of sensitive data on the Internet and how it can be exploited to develop highly detailed intelligence products.	CYBV301 or INTV305 or Consent of Instructor	Online, In-person, Hybrid	F, Sp	Yes
CYBV388	3	Cyber Investigations and Forensics	Study of intrusion detection methodologies, tools, and approaches to incident response;	INFV320 and CYBV385 or	Online, In-person, Hybrid	F, Sp, Su	Yes

			examination of computer forensic principles, including operating system concepts, registry structures, file system concepts, boot process, low level hardware calls, and file operations; and an exploration of the ethical and legal issues attendant to cyber investigations and forensics.	Consent of Instructor			
CYBV435	3	Cyber Threat Intelligence	An investigation of threat actors and the techniques they employ to attack networks. Students will research threat capabilities and objectives. Formal ethical hacking methodology including reconnaissance, scanning and enumeration, gaining access, escalation of privilege, maintain access and reporting is examined.	INFV320 and CYBV385 or Consent of Instructor	Online, In-person, Hybrid	F, Sp	Yes
CYBV436	3	Counter Cyber Threat Intelligence	CYBV 436 will provide students with an in-depth examination of the tactics, techniques, and procedures used to conduct online anonymization and attribution. An extensive analysis of the concepts, technologies, and best practices will be presented. Students will use interactive activities to become familiar with and practice the protection of their online identity.	CYBV435 or Consent of Instructor	Online, In-person, Hybrid	F, Sp	Yes
CYBV437	3	Deception, Counter-	Provides students with an introduction to the concepts of	CYBV301 or INTV305 or	Online, In-person, Hybrid	F, Sp	Yes

		Deception & Counter-Intelligence	deception, counter-deception, counterintelligence, and psychological operations. A survey of how these concepts are used in adversarial Information Operations and why they are among the most effective mechanisms to sway public opinion will be presented. Students will use interactive exercises to become familiar with how to detect deception campaigns as well as the mitigation strategies to defend against them.	Consent of Instructor			
CYBV450	3	Information Warfare	Provides students with an in-depth overview of the tactics, techniques, procedures, and tools used to conduct and defend against Information Operation campaigns. Students will analyze case studies on online influence efforts in order to be able to detect, deconstruct, and counter adversarial Information Operation campaigns.	CYBV301 or INTV305 or Consent of Instructor	Online, In-person, Hybrid	F, Sp	Yes
CYBV473	3	Violent Python	CYBV 473 will provide students with advanced practical applications of Python programming to support offensive and defensive cybersecurity operations. A crosscut of Python concepts, tools, and techniques will be presented. Students will use interactive programming activities to master and create advanced	None	Online, In-person, Hybrid	F, Sp	Yes

			Python tools to support common cybersecurity tasks.				
CYBV479	3	Wireless Networking and Security	Provides an introduction to wireless networking, mobile device hardware and software architectures as well as the application of security fundamentals for mobile computing systems. Students will be able to describe user associations and routing in a cellular/mobile network, interaction of elements within the cellular/mobile core, and end-to-end delivery of a packet and/or signal and what happens with the hand-off at each step along the communications path. They will be able to explain differences in core architecture between different generations of cellular and mobile network technologies.	CYBV326 and CYBV385 or Consent of Instructor	Online, In-person, Hybrid	F, Sp	Yes
CYBV496	3	Special Topics in Cyber Security	This course provides a flexible topics seminar for undergraduates in the evolving field of Cyber Security. Students will explore topics across several domains within the broader field of Cyber Security, including public and/or private information security systems and vulnerabilities, cyber threat intelligence, cyber operations, cyber espionage, and geopolitical issues in cyber	Consent of Instructor	Online, In-person, Hybrid	F, Sp, Su	Yes

			security. Students will develop and exchange scholarly information in a small group setting and engage in activities appropriate to the special topic content.				
ECE340A	3	Introduction to Communications	Analysis and design of analog and digital communication systems based on Fourier analysis. Topics include linear systems and filtering, power and energy spectral density, basic analog modulation techniques, quantization of analog signals, line coding, pulse shaping, AM and FM modulation, digital carrier modulation, and transmitter and receiver design concepts. Applications include AM and FM radio, television, digital communications, and frequency-division and time-division multiplexing.	ECE320A or Consent of Instructor	Online	Sp	Yes
ENGV306	3	Advanced Composition	Study of genre and rhetorical situation; advanced practice in expository writing.	ENGL 102	Online, In-person, Hybrid	F, Sp	Yes
GPSV301	3	American Political Ideas	Examines American political ideas from colonial times to the present.	None	Online, In-person, Hybrid	F, Sp	Yes
GPSV313	3	The American Judicial System	Structure, function, and processes of the Judicial branch of American government.	INTV301 or Consent of Instructor	Online, In-person, Hybrid	Sp	Yes
GPSV388	3	Immigration and Refugee Policy	Analysis of constitutional, legal, historical and political consequences of U.S. immigration and refugee policy. Recent trends.	None	Online, In-person, Hybrid	Sp	Yes

			Foreign and domestic policy effects of migration.				
GPSV461	3	Civil Liberties and the U.S. Constitution	Analysis of the constitutional guarantees of civil liberties in the U.S. Constitution.	INTV 301 or Consent of Instructor	Online, In-person, Hybrid	Sp	Yes
GPSV496	3	Special Topics in Regional Politics and Security	Survey and analysis of the leading political and economic issues of interest in various world regions. Specific regions and topics will depend on student need and interest, and the research/teaching interests of the participating faculty member.	INTV 301 or Consent of Instructor	Online, In-person, Hybrid	F, Sp	Yes
INTV305	3	Introduction to Intelligence & Information Operations	Provides a broad overview of the American intelligence systems – collection, analysis, counterintelligence, and covert operations – and demonstrate how these systems work together to provide a "decision advantage" for policy makers. Students will also learn how US adversaries have shifted away from directly challenging American forces and have moved to a less risky hybrid warfare model to achieve their tactical and strategic goals. Students will use a combination of research and critical thinking exercises to gain an understanding of importance of how intelligence is used to inform the decision making process as well as how to	None	Online, In-person, Hybrid	F, Sp, Su	Yes

			detect and guard against adversarial information operations designed manipulate information to induce decision makers to act against their own best interests.				
INTV314	3	National Security Policy	Decision-making structures, processes, and outcomes relevant to American security policy; comparison with major foreign powers.	POL 201 or Consent of Instructor	Online, In-person, Hybrid	F, Sp	Yes
INTV326	3	Introductory Methods of Intelligence Analysis	Provides students with an introduction to Intelligence Analysis and how intelligence professionals can incorporate tradecraft, including critical thinking and structured analytical techniques, to challenge judgements, identify mental mindsets, stimulate creativity, and manage uncertainty within the framework of providing sound assessments to decision-makers. Students will leverage scenario-based exercises to practice employing structured analytical techniques in order to answer a decision maker's critical information requirements.	None	Online, In-person, Hybrid	F, Sp, Su	Yes
INTV442	3	International Law	The international state system; legal-political problems, including territory, environment, seas.	POL 202 or Consent of Instructor	Online, In-person, Hybrid	Sp	Yes
INTV443	3	Armed Conflict & Conflict Management	This course will survey the many issues surrounding the management and resolution of	INTV301 or Consent of Instructor	Online, In-person, Hybrid	Sp	Yes

			international and domestic conflicts.				
INTV350	3	Collection Operations	Provides students with an overview of the major intelligence disciplines: including Signals Intelligence (SIGINT), Human Intelligence (HUMINT), Geospatial Intelligence (GEOINT), Measurements and Signatures Intelligence (MASINT), and Open Source Intelligence (OSINT). Students will use a combination of research and practical exercises to determine the capabilities and limitations of each discipline to confirm or deny specific information requirements independently.	CYBV301 or INTV305 or Consent of Instructor	Online, In-person, Hybrid	F, Sp	Yes
INTV455	3	Target Centric Analysis	Provides students with an in-depth analysis of the intelligence process; methodologies for evaluating data; threat modeling; and a process to evaluate of the needs of the Intelligence consumer. Students will utilize practical analysis exercises to become familiar with threat modeling, the estimative process, and Intelligence reporting techniques in order to answer a decision maker's critical information requirements.	INTV326 or Consent of Instructor	Online, In-person, Hybrid	F, Sp	Yes
INTV459	3	Intelligence, Surveillance &	Provides an in-depth examination of how to optimize the coordination of all available	CYBV301 or INTV305 or	Online, In-person, Hybrid	F, Sp	Yes

		Reconnaissance Synchronization	collection capabilities in order to support intelligence operations and the military decision making process. Students will conduct research and engage in practical exercises to determine optimal sensor deployment schemes and sensor-to-target mix in order to address different collection requirements.	Consent of Instructor			
INTV471	3	National Security and Intelligence	Overview of the role of intelligence in the formulation and execution of US national security policy. Will include a detailed look at challenges facing both the analysis of intelligence information and the introduction of that analysis into the national security policy process. Will also entail close reading and discussion of selected declassified intelligence documents.	None	Online, In-person, Hybrid	Sp	Yes
INTV473	3	National Security Operations & Issues	This course is intended to familiarize students with the basic purposes and nature of US covert action and to help them understand its historical development. More fundamentally, the course will seek to illustrate both covert actions' potential utility and its inherent limitations and challenges; challenges that in some respects have intensified with the rise of	INTV 301 or Consent of Instructor	Online, In-person, Hybrid	Sp	Yes

			non-state actors, the information revolution, and other aspects of the post-Cold War environment. Finally, the course will draw implications for the role of covert action against current national security challenges, especially global terror networks.				
INTV474	3	Politics of Terrorism	An introduction to theories of international relations as applied to the study of terrorism, including an examination of major discourses on the conduct of state systems, the foundations of modern terrorism and associated evolution of ideology, tactics, and strategies; and evaluation of terrorist ideologies and how that evaluation can develop a framework for critical analysis.	INTV 301 or Consent of Instructor	Online, In-person, Hybrid	Sp	Yes
INTV493	3	Internship in Intelligence & Information Operations	Specialized work on an individual basis, consisting of training and practice in actual service in a technical, business, or governmental establishment.	Consent of Instructor	Online, In-person, Hybrid	F, Sp, Su	Yes
INTV496	3	Special Topics in Intelligence & Information Operations	Survey and analysis of the current intelligence & information operations issues of interest in various world regions. Specific regions and topics will depend on student need and interest, and the research/teaching interests of the participating faculty member.	INTV305 or Consent of Instructor	Online, In-person, Hybrid	F, Sp, Su	Yes

INTV498	3	Senior Capstone in Intelligence & Information Operations	A culminating experience for majors involving a substantive project that includes an engagement experience and demonstrates a synthesis of learning accumulated in the major, including broadly comprehensive knowledge of the discipline and its methodologies.	Senior standing required	Online, In-person, Hybrid	F, Sp	Yes
NETV477	3	Advanced Computer Forensics	An advanced forensics course that provides students an in-depth knowledge of network forensics, network flow analysis, network intrusion detection systems, event reconstruction and memory forensics for Windows, Linux and MAC operating systems.	INFV 320 and CYBV 388 or Consent of Instructor	Online, In-person, Hybrid	F, Sp	Yes
RNR335	3	Introduction to Geospatial Concepts and Defense Applications	Provides students with a basic introduction to geospatial technology and concepts with an emphasis on its use in defense and security. The course will be highly participatory involving hands-on practical experience using geospatial technology. Students will be introduced to the concepts of geospatial technology with a focus on applications that are relevant to military officers and others interested in defense and security.	None	In-person	Sp	Yes

IV. NEW COURSES NEEDED – using the table below, list any new courses that must be created to initiate the major. If specific course number is undetermined, please provide level, (ie CHEM 4**). Add rows as needed. Is a new prefix needed? If so, provide the subject description so Curricular Affairs can generate proposed prefix options.

Course prefix and number (include cross-listings)	Units	Title	Course Description	Pre-requisites	Modes of delivery (online, in-person, hybrid)	Status*	Anticipated first term offered	Typically Offered (F, W, Sp, Su)	Dept signed party to proposal? (Yes/No)
CYBV351	3	Signals Intelligence & Electronic Warfare	Provides an overview of how cyberspace and electromagnetic energy within an operational environment are exploited, both actively and passively, to provide situational awareness and create offensive and defensive non-kinetic effects. Students will conduct research and use advanced simulations to analyze how the vulnerabilities inherent in the reliance on modern electronic devices can be leveraged to prevent or reduce an enemy's effective use of cyberspace and the electromagnetic spectrum	CYBV301 or INTV305 or Consent of Instructor	Online, In-person, Hybrid	S	Spring 2021	F, Sp	Yes

			and while protecting their use for friendly forces.						
CYBV440	3	Digital Espionage	Provides students with a comprehensive overview of the concepts, tactics, techniques adversaries use to steal secrets for political or economic reasons. Students will analyze case studies to become familiar with how to detect, identify, and mitigate digital espionage operations and the actors who conduct them.	CYBV301 or INTV305 or Consent of Instructor	Online, In-person, Hybrid	S	Fall 2020	F, Sp	Yes
CYBV441	3	Cyber War, Terror & Crime	Prepares students to perform analyses of major cyber events to determine contextual relevance and possible threat actor intentions. Using case studies, students will conduct an analytic examination of the similarities and differences among discrete cyber events to determine whether an event presents as possible criminal activity, terrorist activity, or rises to the level of an act of war.	CYBV301 or INTV305 or Consent of Instructor	Online, In-person, Hybrid	S	Fall 2020	F, Sp	Yes

CYBV474	3	Advanced Analytics for Security Operations	CYBV474 provides students an in-depth examination of how the Python scripting language can be used to support advanced analysis in offensive and defensive security operations. Students will use hands-on scripting exercises to evaluate the strengths and weaknesses of automated tools to solve complex security-related problems; practice creating and using Python-based algorithmic solutions; and gain an technical understanding on how to apply the existing Python libraries to support common security-related tasks.	CYBV473 or Consent of Instructor	Online, In-person, Hybrid	S	Spring 2021	F, Sp	Yes

*In development (D); submitted for approval (S); approved (A)

Subject description for new prefix (if requested). Include your requested prefix, if any. : N/A

FOUR-YEAR PLAN – provide a sample four-year degree plan that includes all requirements to graduate with this major and takes into consideration course offerings and sequencing. Refer to Degree Search for examples. Use generic title/placeholder for requirements with more than one course option (e.g. Upper Division Major Elective, Minor Course, Second Language, GE Tier 1, GE Tier 2). Add rows as needed.

Operational Intelligence SubPlan

Semester 1		**Semester 2**		**Semester 3**		**Semester 4**	
Course prefix and number	**Units**	**Course prefix and number**	**Units**	**Course prefix and number**	**Units**	**Course prefix and number**	**Units**
ENGL 101	3	ENGL 102	3	Tier II Individuals & Societies	3	Additional Transfer Coursework from Associate's Degree	15
Associates Required Math Course	3	2nd Semester Second Language	4	Additional Transfer Coursework from Associate's Degree	12		
Additional Transfer Coursework from Associate's Degree	9	Additional Transfer Coursework from Associate's Degree	8				
Total	15	**Total**	15	**Total**	15	**Total**	15

Semester 5		**Semester 6**		**Semester 7**		**Semester 8**	
Course prefix and number	**Units**	**Course prefix and number**	**Units**	**Course prefix and number**	**Units**	**Course prefix and number**	**Units**
INTV305 Introduction to Intelligence & Information Operations	3	INTV326 Introductory Methods of Intelligence Analysis	3	CYBV 329 Cyber Law, Ethics & Policy	3	INTV459 ISR Synchronization	3

ENGV306 Advanced Composition	3	INTV350 Collection Operations	3	CYBV450 Information Warfare	3	Elective: CYBV351, 352, 353, 354, 473, 474, 479, 496 or; ECE340 or; INTV314, 443, 473, 474, 493, 496 or; RNR335	3
INTV301 American Political Ideas	3	INTV471 National Security & Intelligence	3	INTV455 Target Centric Analysis	3	INTV498 Senior Capstone	3
BASV 314 Mathematics for Applied Sciences	3	Tier II Natural Sciences	3	Elective:CYBV351, 352, 353, 354, 473, 474, 479, 496 or; ECE340A or; INTV314, 443, 473, 474, 493, 496 or; RNR335	3	Tier II Arts/Humanities	3
Tier II Arts/Humanities	3	Tier II Individuals & Societies	3	Tier II Individuals & Societies	3	Tier II Individuals & Societies	3
Total	15	**Total**	15	**Total**	15	**Total**	15

Law Enforcement Intelligence SubPlan

Semester 1		Semester 2		Semester 3		Semester 4	
Course prefix and number	**Units**	**Course prefix and number**	**Units**	**Course prefix and number**	**Units**	**Course prefix and number**	**Units**
ENGL 101	3	ENGL 102	3	Tier II Individuals & Societies	3	Additional Transfer Coursework from Associate's Degree	15
Associates Required Math Course	3	2nd Semester Second Language	4	Additional Transfer Coursework from Associate's Degree	12		
Additional Transfer Coursework from Associate's Degree	9	Additional Transfer Coursework from Associate's Degree	8				
Total	15	**Total**	15	**Total**	15	**Total**	15

Semester 5		Semester 6		Semester 7		Semester 8	
Course prefix and number	**Units**	**Course prefix and number**	**Units**	**Course prefix and number**	**Units**	**Course prefix and number**	**Units**
INTV305 Introduction to Intelligence & Information Operations	3	INTV326 Introductory Methods of Intelligence Analysis	3	CYBV 329 Cyber Law, Ethics & Policy	3	INTV459 ISR Synchronization	3
ENGV306 Advanced Composition	3	INTV350 Collection Operations	3	CYBV450 Information Warfare	3	Elective: CYBV354, 435, 436, 440, 441, 474, 496 or; GPSV313, 388, 461, 496 or; INTV 442, 474, 493, 496	3

INTV301 American Political Ideas	3	CYBV388 Cyber Investigations & Forensics	3	NETV477 Advanced Computer Forensics	3	INTV498 Senior Capstone	3
BASV 314 Mathematics for Applied Sciences	3	Tier II Natural Sciences	3	Elective: CYBV354, 435, 436, 440, 441, 474, 496 or; GPSV313, 388, 461, 496 or; INTV442, 474, 493, 496	3	Tier II Arts/Humanities	3
Tier II Arts/Humanities	3	Tier II Individuals & Societies	3	Tier II Individuals & Societies	3	Tier II Individuals & Societies	3
Total	15	**Total**	15	**Total**	15	**Total**	15

Information Warfare SubPlan

Semester 1		**Semester 2**		**Semester 3**		**Semester 4**	
Course prefix and number	**Units**	**Course prefix and number**	**Units**	**Course prefix and number**	**Units**	**Course prefix and number**	**Units**
ENGL 101	3	ENGL 102	3	Tier II Individuals & Societies	3	Additional Transfer Coursework from Associate's Degree	15
Associates Required Math Course	3	2nd Semester Second Language	4	Additional Transfer Coursework from Associate's Degree	12		
Additional Transfer Coursework from Associate's Degree	9	Additional Transfer Coursework from Associate's Degree	8				
Total	15	**Total**	15	**Total**	15	**Total**	15

Semester 5		Semester 6		Semester 7		Semester 8	
Course prefix and number	**Units**	**Course prefix and number**	**Units**	**Course prefix and number**	**Units**	**Course prefix and number**	**Units**
INTV305 Introduction to Intelligence & Information Operations	3	INTV326 Introductory Methods of Intelligence Analysis	3	CYBV 329 Cyber Law, Ethics & Policy	3	INTV459 ISR Synchronization	3
ENGV306 Advanced Composition	3	INTV350 Collection Operations	3	CYBV450 Information Warfare	3	Elective: CYBV354, 435, 436, 441, 474, 496 or; GPSV496 or; INTV314, 442, 443, 471, 473, 474, 493, 496	3
INTV301 American Political Ideas	3	CYBV354 Principles of Open Source Intelligence	3	CYBV437 Deception, Counter-Deception, & Counter-Intelligence	3	INTV498 Senior Capstone	3
BASV 314 Mathematics for Applied Sciences	3	Tier II Natural Sciences	3	Elective: CYBV354, 435, 436, 441, 474, 496 or; GPSV496 or; INTV314, 442, 443, 471, 473, 474, 493, 496	3	Tier II Arts/Humanities	3
Tier II Arts/Humanities	3	Tier II Individuals & Societies	3	Tier II Individuals & Societies	3	Tier II Individuals & Societies	3
Total	15	**Total**	15	**Total**	15	**Total**	15

V. STUDENT LEARNING OUTCOMES AND CURRICULUM MAP—describe what students should know, understand, and/or be able to do at the conclusion of this major. Work with Office of Instruction and Assessment to create a curricular map using Taskstream. Include your curricular map in this section (refer to Appendix C for sample Curriculum Map).

Upon completion of the Bachelor of Applied Science in Intelligence and Information Operations program, students will be able to:
Analyze the structure and functions of the US national security and intelligence communities, including law enforcement agencies.
Describe and analyze the fundamental components of strategic intelligence; national intelligence policy; the intelligence cycle; and intelligence collection.
Demonstrate mastery of the Core Intelligence Analytic Process; including: defining the problem; generating a hypothesis; determining information needs and gathering data; evaluating sources; testing and evaluating hypotheses; packaging and disseminating the product; and conducting peer review.
Identify and apply tactics, techniques, and procedures used to conduct and defend against Information Operation campaigns.
Demonstrate critical thinking strategies, including: reasoning, problem solving, analysis, and evaluation, through applied mathematics; analytic writing, application of research methods, and advanced briefing skills.
Apply advanced knowledge of the major theories and concepts of intelligence and information operations through an internship, capstone, or supervised research experience.

Curriculum Map:

BAS in Intelligence and Information Operations Curriculum Map

Courses and Activities Mapped to BAS in Intelligence Studies and Information Operations Outcome Set

	Outcome					
	National Security and Intelligence Communities Analyze the structure and functions of the US national security and intelligence communities, including law enforcement agencies.	Intelligence Components Describe and analyze the fundamental components of strategic intelligence; national intelligence policy; the intelligence cycle; and intelligence collection.	Core Intelligence Analytic Process Demonstrate mastery of the Core Intelligence Analytic Process; including: defining the problem; generating an hypothesis; determining information needs and gathering data; evaluating sources; testing and evaluating hypotheses; packaging and disseminating the product; and conducting peer review.	Information Operations Identify and apply tactics, techniques, and procedures used to conduct and defend against Information Operation campaigns.	Critical Thinking Demonstrate critical thinking strategies, including: reasoning, problem solving, analysis, and evaluation, through applied mathematics; analytic writing, application of research methods, and advanced briefing skills.	Advanced Application Apply advanced knowledge of the major theories and concepts of intelligence and information operations through an internship, capstone, or supervised research experience.
Courses and Learning Activities						
BASV 314 Mathematics for Applied Sciences			P		IPA	
ENGV306 Advanced Composition				P	P/A	
GPSV 301 American Political Ideas	P				P/A	
INTV 305 Introduction to Intelligence & Information Operations (3 units)	I	I		I		
INTV 326 Introductory Methods of Intelligence Analysis	P	P	I	P	P	
CYBV 329 Cyber Ethics	I/P			P	P	
CYBV 350 Collection Operations	P	P		P		
CYBV 435 Cyber Threat Intelligence				P	I/P	
CYBV 436 Counter Cyber Threat Intelligence				P	P	
CYBV 440 Digital Espionage	P	P				
CYBV 441 Cyber War Crime and Terror	P	P		P	P	
CYBV 450 Information Warfare	P	P		P/A	P	
INTV 459 Intelligence, Surveillance & Reconnaissance Synchronization	P	P	P		P	
INTV 455 Target Centric Analysis			P/A	P	P	
CYBV 388 Cyber Investigations & Forensics			P		P	
CYBV 437 Deception, Counter-Deception & Counter-Intelligence			P	P/A	P	
NETV 477 Advanced Computer Forensics			P		P	
INTV 471						
National Security & Intelligence	P	P			P	
INTV 473 National Security Operations & Issues	P	P		P	P	
INTV 474 Politics of Terrorism			P	P		
CYBV 354 Principles of Open Source Intelligence		P		P	P	
INTV 498 Senior Capstone	A	A	A	A	A	IPA

Legend : I Introduced P Practiced A Assessed I/P Introduced/P

VI. ASSESSMENT PLAN FOR STUDENT LEARNING- using the table below, provide a schedule for program assessment of intended student learning outcomes 1) while students are in the program and 2) after completion of the major. Add rows as needed. Delete EXAMPLE row.

Learning Outcomes	Sources(s) of Evidence	Assessment Measures	Data Collection Points
Outcome 1: Analyze the structure and functions of the US national security and intelligence communities, including law enforcement agencies.	Course-embedded assessments	Exams, practical exercises, & reports	End of GPSV301 End of INTV305 End of INTV326 End of CYBV329 End of INTV350 End of CYBV440 End of CYBV441 End of CYBV450 End of INTV459 End of INTV471 End of INTV473
		Comprehensive research project and report	End of INTV498
	Student learning & program assessment surveys	See attached sample surveys in Appendices E & F	End of INTV498
Outcome 2: Describe and analyze the fundamental components of strategic intelligence; national intelligence policy; the intelligence cycle; and intelligence collection.	Course-embedded assessments	Exams, practical exercises, & reports	End of INTV305 End of INTV326 End of INTV350 End of CYBV354 End of CYBV440 End of CYBV441 End of CYBV450 End of INTV459

			End of INTV471 End of INTV473
		Comprehensive research project and report	End of INTV498
	Student learning & program assessment surveys	See attached sample surveys in Appendices E & F	End of INTV498
Outcome 3: Demonstrate mastery of the Core Intelligence Analytic Process; including: defining the problem; generating a hypothesis; determining information needs and gathering data; evaluating sources; testing and evaluating hypotheses; packaging and disseminating the product; and conducting peer review.	Course-embedded assessments	Exams, practical exercises, & reports	End of BASV314 End of INTV326 End of INTV350 End of CYBV388 End of CYBV437 End of INTV455 End of INTV459 End of INTV474 End of NETV477
		Comprehensive research project and report	End of INTV498
	Student learning & program assessment surveys	See attached sample surveys in Appendices E & F	End of INTV498
Outcome 4: Identify and apply tactics, techniques, and procedures used to conduct and defend against Information Operation campaigns.	Course-embedded assessments	Exams, practical exercises, & reports	End of INTV305 End of INTV326 End of CYBV329 End of INTV350 End of CYBV354 End of CYBV435 End of CYBV436 End of CYBV437

			End of CYBV441 End of CYBV450 End of INTV455 End of INTV473 End of INTV474
		Comprehensive research project and report	End of INTV498
	Student learning & program assessment surveys	See attached sample surveys in Appendices E & F	End of INTV498
Outcome 5: Demonstrate critical thinking strategies, including: reasoning, problem solving, analysis, and evaluation, through applied mathematics; analytic writing, application of research methods, and advanced briefing skills.	Course-embedded assessments	Exams, practical exercises, & reports	End of BASV314 End of ENG306 End of GPSV301 End of INTV326 End of CYBV329 End of CYBV354 End of CYBV435 End of CYBV436 End of CYBV437 End of CYBV441 End of CYBV450 End of INTV455 End of INTV459 End of CYBV388 End of NETV477 End of INTV471 End of INTV473
		Comprehensive research project and report	End of INTV498

	Student learning & program assessment surveys	See attached sample surveys in Appendices E & F	End of INTV498
Outcome 6: Apply advanced knowledge of the major theories and concepts of intelligence and information operations through an internship, capstone, or supervised research experience.	Course-embedded assessment Student learning & program assessment surveys	Comprehensive research project and report See attached sample surveys in Appendices E & F	End of INTV498 End of INTV498

VII. PROGRAM ASSESSMENT PLAN- using the table below, provide a schedule for program evaluation 1) while students are in the program and 2) after completion of the major. Add rows as needed. Delete EXAMPLE rows.

Assessment Measure	**Source(s) of Evidence**	**Data Collection Point(s)**
Job Placement Statistics	Student/Alumni Survey	At graduation and as part of alumni survey
Academic Program Review	Reviewers' responses	Every 7 years
Program Curriculum Review	Interdisciplinary Board reviewer's response	Biannually
Advisory Board Program Review	Advisory Board reviewer's response	Biannually
IC-CAE Designation Renewal	DIA/ODNI reviewer responses	Every 5 years

To provide information to the Program Director, faculty members, and Advisory Board, the Intelligence & Information Operations Program Office will administer surveys to the graduates of the Intelligence & Information Operations degree program. The first survey will be administered in the INTV498 program capstone course, and will be a required course component. A draft of this survey instrument is included, and is designed to provide more general information about student opinions on the degree program's alumni support options, job placement, and preparedness to work in the Intelligence & Information Operations field. Subsequently, this survey will be emailed out by the Program Manager for Intelligence & Information Operations three months after graduation, with a telephone call reminder to complete the survey

from the Intelligence & Information Operations Program Office. It will be emailed out again nine months after graduation, with a reminder call if necessary, from the Intelligence & Information Operations Program Office. Thereafter, the survey will be administered once per year to continue to provide longitudinal data to the Program Director, faculty members, and the Advisory Board.

Further program assessment will be provided by the Advisory Board. The Intelligence & Information Operations program is creating an Advisory Board to provide input to the Program Director and faculty on changing environmental factors and developments that may need to be included in the current course curriculum. The Advisory Board will consist of leaders from different sectors of the Intelligence Community, including those working in the government, the military, and private sector. The Advisory Board will be convened twice each calendar year for a meeting with the current faculty members and the Program Director to review the Intelligence & Information Operations BAS curriculum to be certain it is adjusting as needed to meet market demands and to ensure that the knowledge, skills, and abilities employers are seeking are being addressed by our curriculum.

As part of the IC-CAE designation process, the Intelligence & Information Operations degree program is required to provide curriculum updates at least once per year to verify that the curriculum is staying current in a quickly changing field. The Intelligence & Information Operations BAS program at the University of Arizona has included a twice yearly review of curriculum in their documentation to the DIA. A copy of this review process is attached. This review includes a minor review after the end of the Fall semester, and a more stringent review at the end of the Spring semester each year. This provides the opportunity for minor revisions before a course may be taught again, and time for more major adjustments during the summer prior to courses resuming in the Fall semester.

NEED FOR THE MAJOR-describe how the major fulfills the needs of the city, state, region, and nation. Provide market analysis data or other tangible evidence of the need for and interest in the proposed major. This might include results from surveys of current students, alumni, and/or employers or reference to student enrollments in similar programs in the state or region. Include an assessment of the employment opportunities for graduates of the program during the next three years.

UA South's existing Intelligence Studies program had 66 declared majors at the end of the Spring 2019 semester. Since the announcement of the DIA/ODNI IC-CAE designation, the Intelligence Studies program has had 59 new admissions. The shift in the focus of the program from pure Intelligence Studies to Intelligence and Information Operations as well as the national recognition gained from the DIA/ODNI IC-CAE designation has nearly doubled the program size in one semester from 66

declared majors to over 125 for the Fall 2019 semester. Although we do not expect the program to sustain this rate of growth into the future, we do expect strong continued growth due to the emerging need for professionals with the knowledge, skills, and abilities that this program will directly address.

The Department of Defense and its Intelligence Community partners have begun to merge their Cyber, Intelligence, and Information Operations capabilities to counter new threats who have shifted away from directly challenging US forces to a less risky hybrid warfare model. The DoD and IC are in the infancy of this transition and are still developing the tactics, techniques, procedures, and doctrine on how to operate and fight in the new operational environment. Our program was selected as the number one IC-CAE designee in the Nation by the Defense Intelligence Agency (DIA) specifically because our program addresses this need. Moreover, the Law Enforcement Intelligence emphasis will also directly address one of the fastest growing career options within Federal, State, and local law enforcement. Joint agency law enforcement Intelligence fusion centers are being established across the nation, requiring law enforcement professionals to possess not only the knowledge, skills, and abilities to perform as an analyst but typically also requires a four year degree in order to be minimally qualified.

The reason this degree program will continue to be one of the most popular programs at CAST is that it is preparing students for an emerging career field in which the demand to fill critical positions far outweighs the number of available skilled professionals.

VIII. ANTICIPATED STUDENT ENROLLMENT-complete the table below. What concrete evidence/data was used to arrive at the numbers?

5-YEAR PROJECTED ANNUAL ENROLLMENT					
	1st Year	2nd Year	3rd Year	4th Year	5th Year
Number of Students	**125**	**160**	**195**	**245**	**275**

Data/evidence used to determine projected enrollment numbers: CAST's existing Intelligence Studies program had 66 declared majors at the end of the Spring 2019 semester. Since the announcement of the DIA/ODNI IC-CAE designation, the Intelligence Studies program has had 59 new admissions. The shift in the focus of the program from pure Intelligence Studies to Intelligence and Information Operations as well as the national recognition gained from the DIA/ODNI IC-CAE designation

has nearly doubled the program size in one semester from 66 declared majors to over 125 for the Fall 2019 semester. Although we do not expect the program to sustain this rate of growth into the future, we do expect strong continued growth due to the emerging need for professionals with the knowledge, skills, and abilities that this program will directly address.

IX. ANTICIPATED DEGREES AWARDED- complete the table below, beginning with the first year in which degrees will be awarded. How did you arrive at these numbers? Use National Center for Education Statistics College Navigator to find program completion information of peer institutions offering a same or similar major.

PROJECTED DEGREES AWARDED ANNUALLY					
	1st Year	2nd Year	3rd Year	4th Year	5th Year
Number of Degrees	35	48	59	74	83

The Anticipated Degrees Awarded projections are based on a combination of factors: first, the anticipated graduation rate of our existing full and part-time Junior/Senior student population within the Intelligence Studies program; second, program completion statistics from similar BAS programs found at the National Center for Education Statistics (NCES); and finally, a comparison of program completion statistics from other DIA/ODNI designated Intelligence Community - Centers of Academic Excellence (IC-CAE) programs. Due to the robustness of our program, the innovative delivery of our courses via the Virtual Learning Environment, and the increasing demand for highly qualified Intelligence professionals, we believe the estimated rate underpinning the anticipated degrees awarded annually numbers are conservative.

X. PROGRAM DEVELOPMENT TIMELINE- describe plans and timelines for 1) marketing the major and 2) student recruitment activities. Because its offices and classrooms are located on, or near, community college campuses, CAST defines its markets first by geographic segmentation. Demographics and other relevant factors narrow its target audience to those groups of people to whom CAST can offer the greatest value, while realizing positive, sustainable return on investment. The target audience consists of prospective transfer students, largely those who are considered to be non-traditional students. This population includes students who are currently working full-time or nearly full-time, those who are parents or are caring for other family members including aging parents, and military personnel (including those who are currently deployed). Our students are primarily location-bound with strong ties to family and community within southern Arizona. Our prospective student population is results oriented and career focused, with an average age range of 21-35 years of age.

1) The current Intelligence Studies program is already a robust existing program with over 125 declared majors. We have implemented an initial marketing plan that consists of the following:
    a. UA Intelligence Studies program website located at: https://uas.arizona.edu/intelligence-studies.
    b. We are currently developing a new UA Intelligence & Information Operations website to prepare the transition of our Intelligence Studies program. The new program website will provide detailed information on: our Defense Intelligence Agency (DIA)/Office of the Director of National Intelligence (ODNI) designation as an Intelligence Community Center of Academic Excellence (IC-CAE); detailed information on our existing Intelligence Studies BAS degree program to include sample program schedules and course descriptions/learning outcomes; the UA CyberApolis Virtual Learning Environment; Intelligence Community Career information; Intelligence & Information Operations Faculty; and admissions requirements. Our Intelligence & Information Operations program website will link to the UA Main website and the UA admissions application website. Once the Intelligence & Information Operations is approved and established, the new Intelligence & Information Operations degree program content that we are building will be activated on the website and we will remove the current Intelligence Studies program information as soon as the program is officially disestablished.
    c. The Intelligence Studies program is also fully integrated into Arizona Online and its website located at: https://online.arizona.edu/programs/undergraduate/online-bachelor-applied-science-intelligence-studies-applied-science-bas. This website provides high level details on the Intelligence Studies program, our DIA IC-CAE designation, example courses, and links to admissions and the application. This site also provides links back to the UA Intelligence Studies program website. Once the Intelligence & Information Operations is approved and established, the new Intelligence & Information Operations degree program content that we are building will be activated on the website and we will remove the current Intelligence Studies program information as soon as the program is officially disestablished.
    d. The UA Main website does contain links to the Intelligence Studies program under the Degree Search page located at: https://degreesearch.arizona.edu/major/applied-science-intelligence-studies-emphasis. This page links to the CAST Applied Science: Intelligence Studies Emphasis page. The UA Main website will need to be updated with a direct link to the Intelligence & Information Operations program once it becomes its own BAS degree.
    e. The UA Admissions “Pathways to the UA” webpage has no direct path to the Intelligence Studies page. However, given a detailed, labor-intensive search, the Intelligence Studies program can be found under the Degree Search page. The UA Admissions website will need to be updated with a direct link to the Intelligence & Information Operations program once it becomes its own BAS degree.
    f. CAST has also developed a one-page Intelligence Studies pamphlet with high level program details and

contact information for both Admissions and the Intelligence & Information Operations program office. These pamphlets are given out at various Student Services and Intelligence Studies program recruiting events. They are also made available on the physical campus.

g. CAST Student Services also markets the Intelligence Studies program through their monthly newsletter that goes to current and prospective students.
h. Finally, the Intelligence & Information Operations program has developed a detailed web-magazine-like monthly newsletter called *The Dead Drop.* The *Dead Drop* is sent to all current, prospective, and graduated Intelligence Studies students. The *Dead Drop* is also sent to all of the Intelligence Community industry, government, and transfer pathway academic partner institutions. The *Dead Drop* is a 20 to 40-page document that provides students details on: Major Intelligence related events for the month; upcoming semester course offerings; UA Spotlight on two or more of our Intelligence & Information Operations Faculty; important dates and program information; as well as information on pre-vetted scholarship, internship, and job opportunities that are available to our students.

2) We have implemented an initial student recruitment plan that consists of the following:

By means of digital and print media, radio ads, outdoor advertising such as rented billboards, news releases, direct mail, direct e-mail, website, social media, and personal outreach by the Student Services Team, our promotion and communication efforts will focus on raising awareness of the value of obtaining a degree in Intelligence Studies, along with generating interest in and providing information about career opportunities for Intelligence professionals. We use traditional advertising channels, which reach a wider audience, to achieve this objective, paired with making individual connections with prospective students. We make additional contact with prospective students through outreach to community colleges by meeting with community college instructors and administrators to create partnerships to streamline the options students have to transfer seamlessly from their community college program into the Intelligence & Information Operations department to complete their BAS degree. In addition, our Student Services Team members hold office hours on site at the community college campuses to make themselves available to prospective students for informal visits and conversations to help examine options for credit transfer. These informal conversations augment the more formal classroom visits also conducted by the Student Services Team to provide information to prospective students in a larger presentation setting. Once the students have moved beyond awareness and interest in the college, we leverage interactive communication channels to begin building a relationship and move individuals through the final stages of the decision process to move forward with applying to the University of Arizona. The objective is to raise awareness and communicate the college's value proposition to prospects, and the community at large. The goal is to drive traffic to the CAST website where visitors can search for

information and begin engaging with the college. From the CASTwebsite, students and their families can access details to reinforce the value of obtaining their degree here, from seeing the lower tuition rates available to CAST and University of Arizona Online, to learning more about the nationally-recognized caliber of the curriculum of the Intelligence Studies BAS.

XI. DIVERSITY AND INCLUSION-describe how you will recruit diverse students and faculty to this program.

The University of Arizona South (UAS) is a branch campus of the University of Arizona, the state's Land Grant University. The Arizona Board of Regents designated the Sierra Vista Campus as an official branch campus of the University of Arizona in 1995, and four years later changed its name to the University of Arizona South, in recognition of the expansion of responsibilities throughout southern Arizona. The University of Arizona and the branch campus at **UAS are officially designated as Hispanic Serving Institutions (HSIs).** UAS has been designated as an HSI since 2002. Specifically, UA South is located along the US-Mexico border—a region characterized by high levels of diversity (especially Hispanic) and a number of economically disadvantaged small towns and rural, underserved areas.

The BAS-IS program is committed to achieving excellence through cultural diversity and actively seeks culturally diverse faculty and students. The BAS-IS program at UA South was developed specifically to support the educational needs of the intelligence community, and is in an excellent position to attract students from a number of critical and underserved populations. Moreover, our proximity to Fort Huachuca and to Davis-Monthan Air Force Base, as well as a significant number of small and large defense contractors, means that our student population tends to reflect the racial, ethnic, and cultural diversity that is the hallmark of today's military and service-connected personnel. Moreover, the student population overall is 62% female. Finally, the fact that the BAS-IS is now also being offered through AZ Online means that non-traditional students, students from rural or underserved areas, and students with diverse racial, ethnic, and gender backgrounds who encountered barriers through traditional time-and-place bound educational programs can now earn a degree that is accessible regardless of location or time commitments. By developing innovative educational technologies, we have been able to overcome many of the challenges of distance through the use of interactive television, synchronous and asynchronous online virtual classrooms, and hybrid instructional methods that serve our constituent communities and offer the same exceptional academic experience students would receive in the face-to-face classroom. One outstanding example of this kind of innovative educational technology is our Cyber Virtual Learning Environment.

We propose to apply these advances in distance and online instructional methodologies to ensure that the BAS in Intelligence and Information Operations degree program maintains our commitment to academic excellence. As past and present recipients of Title III and Title V grants for improving educational opportunities for Hispanic students, we have refined our

instructional methodologies and implemented culturally appropriate student support systems for working with minority and under-served students, providing them with the resources and supports they need to be successful.

ABOR REQUIREMENT: Table-Proposed New Programs

Name of Proposed Degree (degree type and major), College/School, Location, Anticipated Catalog Year	**Program Fee Required? (Yes or No)**	**Brief Description Justification and Identified Market Need**	**Learning Outcomes and Assessment Plan**	**Projected 3rd Year Enrollment**
Bachelor of Applied Science in Intelligence & Information Operations, with Subplans in Operational Intelligence, Law Enforcement Intelligence, and Information Warfare, University of Arizona South, Arizona Online, UA Distance, Anticipated Catalog Year: 2020-21	No	Description: The BAS in Intelligence & Information Operations is designed specifically to prepare graduates for entry into a number of Intelligence-related occupations in defense, law enforcement, and private industry. The curriculum will provide students with a critical baseline of technology skills, as well as critical thinking skills and detective-like thought processes that enable students to analyze problems and render solutions. Students will apply knowledge of threat actions and behaviors to predict adversarial activities and intentions; understand and know how to apply legal and ethical standards to Intelligence community activities, and be able to communicate effectively. Justification: The BAS is the largest and fastest-growing area of enrollment at UA South. It is designed as an opportunity for students to complete a bachelor's degree with all	**Learning Outcome #** 1. Analyze the structure and functions of the US national security and intelligence communities, including law enforcement agencies. 2. Describe and analyze the fundamental components of strategic intelligence; national intelligence policy; the intelligence cycle; and intelligence collection. 3. Demonstrate mastery of the Core Intelligence Analytic Process; including: defining the problem; generating a hypothesis; determining information needs and gathering data; evaluating sources; testing and evaluating hypotheses; packaging and disseminating the product; and conducting peer review.	**195**

		of the knowledge and skills necessary to be immediately employable in a professional field. The BAS is structured with a set of core courses designed to meet certain requirements identified by employers as essential knowledge and skills for success in the workplace. These core requirements are technical writing, critical thinking, research and analysis, applied mathematics, professional ethics, and a capstone experience synthesizing and applying knowledge learned in the content area. Although these core requirements have not changed since the BAS was first implemented, the addition of new subplans in diverse content areas has resulted in different courses being proposed to meet these requirements. While the intent behind requiring specific courses to meet the BAS core requirements was to provide a better alignment of the core requirements to the content of the subplans, the end result has been to cause the BAS degree to be out of compliance with ABOR policy requiring a certain percentage of identical courses within a single major. Accordingly, what are currently subplans within the single BAS degree program are being reorganized into BAS degree programs aligned into appropriate content	4. Identify and apply tactics, techniques, and procedures used to conduct and defend against Information Operation campaigns. 5. Demonstrate critical thinking strategies, including: reasoning, problem solving, analysis, and evaluation, through applied mathematics; analytic writing, application of research methods, and advanced briefing skills. 6. Apply advanced knowledge of the major theories and concepts of intelligence and information operations through an internship, capstone, or supervised research experience. **Assessment Method and/or Instrument(s)** 1. INTV305 Introduction to Intelligence & Information Operations is the gateway course for the BAS in Intelligence & Information Operations (BAS-IIO). Students will take a pre-test (multiple choice and short answer) at the start of this course on the content addressed in Program Student Learning Outcomes (ELOs). Students will also be asked to self-assess their level of knowledge of the study of cybersecurity principles and	

		majors. The BAS in Applied Science with an emphasis in Intelligence Studies—which currently has approximately 125 majors–is being reorganized into a BAS in Intelligence & Information Operations with subplans in Operational Intelligence, Law Enforcement Intelligence, and Information Warfare. The existing BAS with an emphasis in Intelligence Studies is steadily increasing in enrollment at all locations in which it is offered. Market Need: CAST's existing Intelligence Studies program had 66 declared majors at the end of the Spring 2019 semester. Since the announcement of the DIA/ODNI IC-CAE designation, the Intelligence Studies program has had 59 new admissions. The shift in the focus of the program from pure Intelligence Studies to Intelligence and Information Operations as well as the National recognition gained from the DIA/ODNI IC-CAE designation has nearly doubled the program size in one semester from 66 declared majors to over 125 for the Fall 2019 semester. Although we do not expect the program to sustain this rate of growth into the future, we do expect strong continued growth due to the	what they expect to know and be able to do at the end of the Intelligence & Information Operations program. This pre-test will measure both direct and indirect evidence of student prior knowledge. A post-test assessing the same content will be administered to students in their culminating/capstone course, assessing student mastery of the ELOs. The pre-test will establish a baseline from which to judge how well the Intelligence & Information Operations program meets the objectives articulated in the ELOs. 2. There are three subplans in the BAS-IIO program and students in the respective subplan must take the INTV305 Introduction to Intelligence & Information Operations gateway course. All courses that meet the subplan requirements in the BAS-IIO program include knowledge-based and/or performance-based assessments where the student must demonstrate they have mastered the knowledge, skills and abilities that are assessed according to the standard program analytic rubric through D2L and the UA Virtual Learning Environment. Assessment data will be collected through the application of this rubric for the gateway course and all of the core elective courses within a single subfield on a yearly basis and will be	

		emerging need for professionals with the knowledge, skills, and abilities that this program will directly address. According to the Bureau of Labor Statistics, the rate of growth for jobs in Intelligence related fields is projected at 5-9% from 2016–2026. However, their most recent estimate does not take into account the current shift in Intelligence operations that is being driven by changes to the operational environment. The Department of Defense and its Intelligence Community partners have begun to merge their Cyber, Intelligence, and Information Operations capabilities to counter new threats who have shifted away from directly challenging US forces to a less risky hybrid warfare model. The DoD and IC are in the infancy of this transition and are still developing the tactics, techniques, procedures, and doctrine on how to operate and fight in the new operational environment. Our program was selected as the number one IC-CAE designee in the Nation by the Defense Intelligence Agency (DIA) specifically because our program addresses this need. Moreover, the Law Enforcement Intelligence emphasis will also directly address one	analyzed to determine if students achieved the designated ELOs. 3. INTV498—Senior Capstone: during this course students propose, develop, and complete comprehensive and cumulative performance-based research projects. These projects will provide data that will be used to assess whether students have acquired the knowledge, skills, and abilities that comprise the ELOs expected of the BAS-IIO program. Student mastery of these outcomes will be assessed through an evaluation of the final performance-based research project according to the capstone analytic rubric through D2L and the UA Virtual Learning Environment. Assessment data collected through the application of this rubric to Senior Capstone Research Projects will be analyzed on an ongoing basis. 4. As noted above, students in INTV498 will take a subplan-appropriate program post-test that reassesses their content knowledge and asks them to rate the knowledge, skills, and abilities contained in the ELOs that they have acquired as a result of completing the BAS-IIO Program. Students will also be asked whether learning outcomes for the program were clear; whether course content and materials, activities, assignments, and tests in their classes contributed to	

		of the fastest growing career options within Federal, State, and local law enforcement. Joint agency law enforcement Intelligence fusion centers are being established across the Nation, requiring law enforcement professionals to possess not only the knowledge, skills, and abilities to perform as an analyst, but typically also requires a four year degree in order to be minimally qualified. The reason this degree program will continue to be one of the most popular programs in CAST is that it is preparing students for an emerging career field in which the demand to fill critical positions far outweighs the number of available skilled professionals.	meeting the ELOs of the BAS-IIO program. Finally, students will be asked what are the three most important things they learned in the BAS-IIO program. This information will be compiled and analyzed against the Pre-survey data.	

Appendix A. Faculty CV. Complete the table below by providing UA Vitae profile link or short CV for each faculty member participating in the proposed program. Add rows as needed. UA Vitae profiles can be found in the UA directory/phonebook. Please contact Curricular Affairs for CVs, per proposers' request.

Full Time Faculty Member	UA Vitae link or "CV attached"
Jason Denno, M.S., M.B.A.	CV attached
Adjunct Faculty Members	UA Vitae link or "CV attached"
Harry Cooper, Ph.D.	CV attached
Jon Dorschner, Ph.D.	CV attached
Tierra Stimson, Ph.D.	CV attached
Patrick Tortorici, Ph.D.	CV attached
Robert Batey, JD	CV attached
Heidi Calhoun-Lopez, JD	CV attached
Kate Mabbett, M.S.	CV attached
Cheryl Morgan, M.S.	CV attached
Craig Nazareth, M.S.	CV attached
Troy Ward, M.S.	CV attached
Randi Buros, M.A., M.Ed.	CV attached
Luis Cruz, M.A.	CV attached
Christopher Hilliard, M.A.	CV attached
John McCary, M.A.	CV attached
Krista Ochs, M.A.	CV attached
James Schroeder, M.A.	CV attached
Full Time Faculty Members from Other BAS Programs	
Linda Denno, Ph.D.	CV attached
Todd Lutes, Ph.D.	CV attached
Sandra Moore, M.S.	CV attached
Paul Wagner, M.S., M.B.A.	CV attached

Appendix B. Assessment Plan for Student Learning

To assess student learning outcomes from the beginning of their time in the BAS Intelligence & Information Operations (BAS-IIO) to the end of their BAS degree, the Intelligence & Information Operations Program Office will provide an evaluation to each student to determine their knowledge of Intelligence & Information Operations subject matter. When they are a new student, the Intelligence & Information Operations Program Office will ask each student to complete an evaluation of their knowledge of Intelligence & Information topics by completing a questionnaire in their first course (typically INTV305). To ensure that these assessments are completed, we would request that all new students be placed in a Student Group that will place an Advising Hold on the student accounts that may not be lifted until students complete the assessment. This will serve as their base score for their subject matter knowledge when beginning the degree program. At the end of the student's degree program, when they register for the program capstone course (INTV498) we will request that they be placed in another Student Group that will then place a Hold on their account that will not allow their final degree audit to be completed for graduation if they have not yet completed a questionnaire on their subject matter knowledge at the end of their degree program. The content for this assessment will be pulled from a question bank generated by compiling quiz, midterm, and final exam questions from all program core courses required for completion of the Intelligence & Information Operations BAS degree program.

In addition, to provide information to the Program Director, faculty members, and Advisory Board, the Intelligence & Information Operations Program Office will administer surveys to the current students in the Intelligence & Information Operations degree program at the end of each Fall and Spring semester. A draft of this survey instrument is included, and is designed to provide more general information about student opinions on the degree program's course offerings and scheduling options. This survey information will be emailed out by the Program Manager for Intelligence & Information Operations at the end of each Fall and Spring, after finals are completed and submitted and will augment the data collected in the specific course TCEs.

THE UNIVERSITY OF ARIZONA
UA South

Appendix C - Student Learning Assessment Survey Example

The Intelligence & Information Operations Program Office wants to collect data from our current students about their experience in the degree program, as well as the longer-term benefits of completing the degree. We ask that you answer these brief questions so that we may be able to learn how we can continuously improve the degree program for future students. Thank you for helping us!

We will begin with some demographic questions just to get an idea of who our students are and a bit about their backgrounds.

- This semester, did you complete your coursework entirely online, with no courses in person?
    - If yes, were you:
        - UA Online Student
        - UA South or UA Distance Student
- Can you describe your student schedule this semester?
    - Full time (12 credit hours or more per fall or spring semester)
    - Part time (12 credit hours or fewer per fall or spring semester)
- Are you a first generation student (your parents and grandparents did not graduate from college)?
    - Yes
    - No
- Gender
    - Female
    - Male
    - Prefer not to report
- Ethnicity
    - Asian or Asian Indian
    - Black or African American
    - Latino/a, Hispanic, or Chicano/a
    - Native American
    - Native Hawaiian or Pacific Islander
    - White or Caucasian, non-Hispanic
    - Two or more races
    - Prefer not to report
- Military/Veteran status
    - Current military member (active duty or reserves)

    - Veteran
    - Veteran/Military dependent
- What is your current location?
    - Arizona
    - US, not Arizona (please list state)
    - Outside the US
- We would like to help connect our current students with our graduates to assist them with networking and learning more about the industry. Would you be interested in being connected with an alum for networking and mentorship?
    - Yes
    - No

In this section, we would like to ask a little bit about your current employment situation. This data will only be used by the department to provide additional context to understand who our students are and some of their time commitments outside of their classes.

- Are you currently employed in your degree field?
    - If yes, how would you describe your employment sector? Please choose the best answer below:
        - Nonprofit sector
        - Private sector, not defense contracting
        - Private sector defense contracting
        - Government, non-military
        - Military
    - If no, have you sought employment in your degree field? Please choose the best answer below:
        - Yes, I am currently looking for employment in my degree field
        - No, I am currently focusing only on completing my degree
        - Other, please explain

          _____
- Are you currently employed outside your degree field?
    - If yes, please describe your workload, on average:
        - I work full time (more than 30 hours per week)
        - I work part time over (15 – 30 hours per week)
        - I work part time (fewer than 15 hours per week)

For this section, we would like to learn more about your experience as a student DURING THE CURRENT SEMESTER. Please respond according to the course(s) in which you were registered this semester.

- I took courses in the Seven Week Session format:
    - Yes

        - If yes, did you feel the Seven Week Session format provided adequate time to learn the course content?
            - Yes
            - No
        - If yes, why did you choose to take courses in the Seven Week Session format?
            - The course was only offered in this format
            - I prefer to take courses in the Seven Week Session format
            - It depends upon the course/content/instructor
    - No
        - If no, why did you choose not to take courses in the Seven Week Session format?
            - The course was not offered in this format
            - I prefer to take courses in the full semester (16 week) format
            - It depends upon the course/content/instructor
- In your classes that were taught online, did you find the synchronous lectures to be beneficial?
    - Yes, I like being in lecture with my classmates and having the chance to interact with them and the instructor
    - No, I did not find them very helpful
    - Not applicable (I did not participate in synchronous lectures)
- Did you find your courses to be appropriately challenging?
    - Yes, they were about as difficult as I expected.
    - No, they were much more difficult than I expected.
    - No they were much less difficult than I expected.
- Did you find your faculty and/or advisors to be helpful in choosing your courses and providing assistance as needed during the semester?
    - Yes
    - No
- Do you feel your previous coursework prepared you for the amount and type of math you would need to do this semester?
    - Yes
    - No
- Do you feel your previous coursework prepared you for the amount and type of computer programming you would need to do this semester?
    - Yes
    - No

In these final questions, we would like to give you the opportunity to provide us with any other information you would like.

- Is there anything you would like to tell the department about your student experience? This can include any suggestions of workshops or programming you would recommend for the department to incorporate.

- Should the department consider any changes to the curriculum or additional course offerings to meet industry needs?

- Is there anything else you would like to tell us?

Thank you for taking the time to complete this brief questionnaire. We appreciate the feedback and your interest in helping us to make continuous improvements to the Intelligence & Information Operations degree programs!

THE UNIVERSITY OF ARIZONA
UA South

Appendix D - Program Assessment Graduate/Alumni Survey

The Intelligence & Information Operations Program Office wants to collect data from our graduates about their experience in the degree program, as well as the longer-term benefits of completing the degree. We ask that you answer these brief questions so that we may be able to learn how we can continuously improve the degree program for future students. Thank you for helping us!

We will begin with some demographic questions just to get an idea of who our graduates are and a bit about their backgrounds.

- Did you complete your coursework entirely online, with no courses in person?
    - If yes, were you:
        - UA Online Student
        - UA South or UA Distance Student
- Can you describe your student schedule?
    - Full time (12 credit hours or more per fall or spring semester)
    - Part time (12 credit hours or fewer per fall or spring semester)
    - Combination (some semesters I was full time, some I was part time)
- Are you a first generation student (your parents and grandparents did not graduate from college)?
    - Yes
    - No
- Gender
    - Female
    - Male
    - Prefer not to report
- Ethnicity
    - Asian or Asian Indian
    - Black or African American
    - Latino/a, Hispanic, or Chicano/a
    - Native American
    - Native Hawaiian or Pacific Islander
    - White or Caucasian, non-Hispanic
    - Two or more races
    - Prefer not to report
- Military/Veteran status
    - Current military member (active duty or reserves)

    - Veteran
    - Veteran/Military dependent
- Have you ever held a security clearance?
    - If yes, is it current or expired?
        - Current
        - Expired
- Have you ever held any professional certifications in the Information Technology or Intelligence & Information field?
    - If yes, which did you hold?
        - Security +
        - Certified Ethical Hacker (CEH)
        - Certified Information Systems Security Professional (CISSP)
        - CompTIA Advanced Security Practitioner (CASP)
        - SANS Certifications (please list)
    - If yes, which of your certifications are current?
        - Security +
        - Certified Ethical Hacker (CEH)
        - Certified Information Systems Security Professional (CISSP)
        - CompTIA Advanced Security Practitioner (CASP)
        - SANS Certifications (please list)
- What is your current location?
    - Arizona
    - US, not Arizona (please list state)
    - Outside the US
- We would like to help connect our current students with our graduates to assist them with networking and learning more about the industry. Would you be interested in acting as a mentor to current students or networking with current students and other graduates?
    - Yes
    - No
- Do you want to receive information from the Intelligence & Information Operations department about networking events, alumni news, and departmental information, including the monthly newsletter?
    - Yes
    - No
- The best email address for me is: _____

In this section, we would like to gather some information about the role your degree may have played in your employment options. We want to provide our current students with the support they need to succeed in their careers, so any information our graduates can provide will assist us with describing the paths our previous graduates have taken.

- When did you graduate?

    - Less than 1 year ago
    - 1 year to 5 years ago
    - More than 5 years ago
- At the time of your graduation, were you employed?
    - If yes, was your job in your degree field?
    - If no, did you have any job offers at the time of your graduation?
        - If yes, were any or all of these offers in your degree field?
        - If no, were you seeking employment at the time of your graduation?
- Are you currently employed in your degree field?
    - If yes, how would you describe your employment sector? Please choose the best answer below:
        - Nonprofit sector
        - Private sector, not defense contracting
        - Private sector defense contracting
        - Government, non-military
        - Military
    - If no, have you sought employment in your degree field? Please choose the best answer below:
        - Yes, I am currently looking for employment in my degree field
        - Yes, but I am no longer looking for employment in my degree field
        - No, I have chosen to pursue additional education
        - No, I have chosen to work in a different field
        - Other, please explain

          _____

In these final questions, we would like to give you the opportunity to provide us with any other information you would like.

- Is there anything you would like to tell the department about your job search? This can include any advice you have for new graduates, or suggestions of workshops or programming you would recommend for the department to incorporate.

- Should the department consider any changes to the curriculum or additional course offerings to meet industry needs?

- Is there anything else you would like to tell us?

Thank you for taking the time to complete this brief questionnaire. We appreciate the feedback and your interest in helping us to make continuous improvements to the Intelligence & Information Operations degree programs!

THE UNIVERSITY OF ARIZONA
UA South

Appendix E - Intelligence & Information Operations Curriculum Review & Modification Policy

Background:
In order to keep the UA Intelligence & Information Operations curriculum current and relevant, a standardized course and instructor review process is performed at the end of each course. This process examines the quality and relevance of course content; evaluates the effectiveness of instruction; and incorporates the results of student feedback on formal Teacher/Course evaluation surveys. Due to the rapidly evolving nature of the field of Intelligence & Information operations, our faculty are committed to staying abreast of current events, changing operational environments, as well as new tactics, techniques, and procedures. Each year an interdisciplinary board is assembled to examine our research results; assess current events in Intelligence & Information operations tactics, techniques and procedures; and analyze input from other Intelligence Community members. These data are reviewed to identify any programmatic or individual course deficiencies and utilized to support continuous updating of course content and relevance.

Members of the Interdisciplinary Board:

- Intelligence & Information Operations Program Director – Interdisciplinary Board Chair
- Cyber Operations Program Director
- Network Operations Program Director
- Informatics/Computer Science Program Director
- Bachelor of Applied Science Program Director
- Assistant Dean of Student Services
- Full Time Intelligence & Information Operations Faculty
- Adjunct Intelligence & Information Operations Faculty
- Interdisciplinary Faculty Who Teach in the Intelligence & Information Operations Program
- Virtual Learning Environment (VLE) Software Engineer
- Ad hoc Intelligence Community Professionals

Course Review Inputs

- DIA/ODNI IC-CAE Academic Content Requirements
- Predominant Intelligence & Information Trends and Threat Actors in the Last 12 Months
- UA Intelligence & Information Operations Research Results
- Intelligence & Information Operations Course Materials
- Intelligence & Information Operations Course Assessment Results
- Teacher/Course Evaluations for all Intelligence & Information Operations and Interdisciplinary Courses

- VLE Resource Status

Course Review & Updating Process

- The Interdisciplinary Board Chair will convene an Intelligence & Information Operations Curriculum Review Board each year at the conclusion of the Spring semester.
- The Intelligence & Information Operations Program Office is responsible to set the Review Board agenda and arrange the meeting logistics (location, invitations, etc.).
- The Intelligence & Information Operations Program Director will provide an update on the IC-CAE Academic Requirements. Any DIA/ODNI requirement change that will substantially impact UA's ability to meet its IC-CAE designation requirements will be identified as a mandatory program update.
- The primary Threat Intelligence Instructor will provide a Current Trends and Threat Actors brief and will provide any recommendations for course updates based on changes in the threat landscape.
- Each UA Intelligence & Information Researcher will present an overview of their current research efforts and identify any recommendations for course modifications based on their findings.
- Each Intelligence & Information Operations course will be reviewed to determine if the content is still relevant, if the assessment strategies continue to be appropriate, and if the student engagement plan is effective. The following areas will be reviewed at a minimum:
    - Course Content and Required Resources
    - Course Assessment Statistics
    - Labs, Activities, and Writing Assignments
    - Quizzes, Midterms, and Final Examination
    - Instructor TCE Review
    - VLE Support Requirements
- A list of recommended updates will be developed for each course then voted on by the Review Board. The Intelligence & Information Operations Program Director will have the final decision on each recommended course modification.
- The Intelligence & Information Operations Program Director will work with the UA leadership to obtain any required resources and will assign course updates to the Intelligence & Information Operations faculty for completion.
- The Intelligence & Information Operations Program Office will maintain a list of all course update requirements and will track the completion of course modifications.
- The Intelligence & Information Operations Program Director will review and approve course updates prior to the next academic year course offering.
- The Intelligence & Information Operations Program Office will maintain a repository of each course's materials to provide historical accounting as well as the ability to revert back to a previous course iteration if required.

THE UNIVERSITY OF ARIZONA

BUDGET PROJECTION FORM

Name of Proposed Program or Unit:

	Projected		
Budget Contact Person:	**1st Year** 2020 - 2021	**2nd Year** 2021 - 2022	**3rd Year** 2022 - 2023
METRICS			
Net increase in annual college enrollment UG	125	160	175
Net increase in college SCH UG	1,875	2,400	2,625
Net increase in annual college enrollment Grad	-	-	-
Net increase in college SCH Grad	-	-	-
Number of enrollments being charged a Program Fee	-	-	-
New Sponsored Activity (MTDC)			
Number of Faculty FTE	1	2	2
FUNDING SOURCES			
Continuing Sources			
UG RCM Revenue (net of cost allocation)	121,544	155,577	170,162
Grad RCM Revenue (net of cost allocation)	-	-	-
Program Fee RCM Revenue (net of cost allocation)	-	-	-
F and A Revenues (net of cost allocations)			
UA Online Revenues	423,101	541,570	592,342
Distance Learning Revenues	22,969	29,400	32,156
Reallocation from existing College funds (attach description)			
Other Items (attach description)	89,800	89,800	89,800
Total Continuing	**$ 657,414**	**$ 816,346**	**$ 884,460**
One-time Sources			
College fund balances			
Institutional Strategic Investment			
Gift Funding			
Other Items (attach description)			
Total One-time	**$ -**	**$ -**	**$ -**
TOTAL SOURCES	**$ 657,414**	**$ 816,346**	**$ 884,460**
EXPENDITURE ITEMS			
Continuing Expenditures			
Faculty	100,000	200,000	200,000
Other Personnel	60,800	60,800	60,800
Employee Related Expense	31,400	62,800	62,800
Graduate Assistantships	-	-	-
Other Graduate Aid	-	-	-
Operations (materials, supplies, phones, etc.)	-	-	-
Additional Space Cost	-	-	-
Other Items (attach description)			
Total Continuing	**$ 192,200**	**$ 323,600**	**$ 323,600**
One-time Expenditures			
Construction or Renovation	-	-	-
Start-up Equipment	-	-	-
Replace Equipment	-	-	-
Library Resources	-	-	-
Other Items (attach description)	-	-	-
Total One-time	**$ -**	**$ -**	**$ -**
TOTAL EXPENDITURES	**$ 192,200**	**$ 323,600**	**$ 323,600**
Net Projected Fiscal Effect	**$ 465,214**	**$ 492,746**	**$ 560,860**

Majors Comparison Chart

	Proposed UA Program: **Major:** Intelligence & Information Operations **Subplans:** Operational Intelligence Law Enforcement Intelligence Information Warfare Bachelor of Applied Science degree, CAST	Peer 1: **Major:** Justice Studies **Emphasis:** Intelligence Studies Bachelor of Applied Science degree, Northern Arizona University	Peer 2: **Major**: Bachelor of Applied Science **Emphasis**: Homeland Security Regis University
Current # of enrolled students	[redacted]	28	39
	Description of major: The BAS in Intelligence and Information Operations prepares graduates for occupations in defense; the Intelligence Community; federal, state, and local law enforcement; and private industry. The curriculum includes intelligence operations, information warfare, and cybersecurity content delivered within our state-of-the-art Virtual Learning Environment to ensure our students have extensive hands-on experiences to develop the knowledge, skills, and abilities necessary to succeed after they graduate. The BAS degree in Intelligence & Information Operations offers three subplans, both in-person and fully online: Operational Intelligence, Law Enforcement Intelligence, or Information Warfare.	From: http://catalog.nau.edu/Catalog/details?plan=JUSSTBAS&catalogYear=1819 **Description of major** This degree provides a criminal justice foundation and then allows for a specialization in intelligence studies. By learning from the top practitioners in the field, you will gain first-hand knowledge of ethics, forensics, intelligence studies, corrections, terrorism and legal issues for justice administrators.	From: https://www.regis.edu/CCLS/Academics/Degrees-and-Programs/Undergraduate-Programs/Bachelor-of-Applied-Science.aspx **Description of major:** Regis University's Bachelor of Applied Science degree (BAS) enhances professional development for community college transfer students earning an Associate of Applied Science degree, while honing their leadership skills to succeed in an array of career fields from counseling and social services, corporate or nonprofit management, to government, criminal justice and security. Note: Some course work may need to be completed through directed study.
Target careers	• Federal, state, and local law enforcement, including FBI, CIA, DHS, NSA, Secret Service • Intelligence Analyst • Criminal Intelligence Analyst • Intelligence Operations Specialist • Counter-Intelligence Specialist • Senior All Source Analyst • Collection Analyst • Criminal Investigator	• Police officer, police detective or police supervisor • Probation • Parole • Corrections • Homeland Security • Intelligence-Led Policing • Intelligence Analyst • Private security	• Federal, state, and local law enforcement, including FBI, CIA, DHS, Secret Service • Homeland Security • Intelligence-Led Policing • Intelligence Analyst

	• Crime Analyst • Information Warfare Officer • Information Operations Officer		
Total units required to complete degree	120 units	120 Units	120 units
Upper - division units required to complete degree	45 units	30 Units	54 units
Foundation courses			
English composition	ENGL 101 (3) First-Year Composition or equivalent ENGL 102 (3) First-Year Composition or equivalent	English Composition—minimum 4 units	English Composition—3 credit hours Advanced English Composition—3 credit hours
Foreign language	2nd Semester Proficiency	None	None
Math	BASV 314—Mathematics for Applied Sciences	MAT 114 – Quantitative Reasoning	MT 201—College Algebra
General education requirements	**TIER II GENERAL EDUCATION** (21 Upper Division Units) Can be replaced with customized coursework if AGEC complete. **Natural Sciences (3 Units)** Can be taken at CC in 75/45 option **Arts and Humanities (6 Units)** Can be taken at CC in 75/45 option **Individuals and Societies (12 Units)** 9 units can be taken at CC in 75/45 option **Diversity Requirement**	Liberal Studies Requirement (35 units) • Aesthetic and Humanistic Inquiry - AHI (minimum of 6 units) • Cultural Understanding - CU (minimum of 6 units) • Science (minimum of 7 units) • 3-4 units of Science and Applied Science - SAS course(s) AND • 3-4 units of Science and Applied Science with embedded Lab Science course - LAB • Social and Political Worlds - SPW (minimum of 6 units) • 3 additional units from any distribution block or foundation category to meet the 35 unit liberal studies requirement	**Undergraduate General Education Requirements:** **Literature/Humanities (6 credit hours)** Any 300-400 EN, all HU courses, all COM courses (excluding COM 210, COM 211, COM 406, and COM 437) **Social Sciences and Global Issues (12 credit hours):** All CIV 400-level courses, all EC, all ED, all HS, all PY, all SO courses, all CR courses **Natural Sciences (3 credit hours):** Choose from all CN, CIS or CS courses **Philosophy** (6 credit hours): Choose from all PL courses **Religious Studies** (6 credit hours): Choose from all RC, all RS courses
Pre-major? (yes/no). If yes, indicate coursework.	No	No	No

List any special requirements to declare or gain admission to this major (completion of specific coursework, minimum GPA, interview, application, etc.)	The Intelligence & Information Operations program requires a supplemental program application in addition to admission to The University of Arizona. The entrance requirements include: • Minimum 2.5 GPA in your college coursework • Resume • Goal statement	To be admitted into the Bachelor of Applied Science in Justice Studies you must have: • Completed or be in the process of completing JUS 110 and JUS 120 or their equivalent. • An associate's degree, either completed or in progress, at a regionally accredited institution and the associate's degree must be completed prior to the awarding of the B.A.S. degree.	Credits from the major area of study earned toward a completed Associate of Applied Science (A.A.S.) degree from a regionally accredited community college will be counted in the Regis University Bachelor of Applied Science (B.A.S.) foundational area NOTE: Earned A.A.S. degrees with majors in applied occupational technical areas do not qualify for transfer into the B.A.S. degree at Regis University.
Major requirements			
Minimum # of units required in major	42	45	30
Minimum # of upper-division units required in the major	30	30	30
Minimum # of residency units to be completed in the major	30	30	30
Required supporting coursework (courses that do not count towards major units and major GPA, but are required for the major). Courses listed must include subject code, units, and title.	N/A	To be admitted into the Bachelor of Applied Science in Justice Studies you must have: • completed or be in the process of completing JUS 110: Introduction To Criminal Justice (3 units) • and JUS 120: Introduction To Criminology (3 units) or their equivalent; • an associate's degree, either completed or in progress, at a regionally accredited institution and the associate's degree must be completed prior to the awarding of the B.A.S. degree.	Credits from the major area of study earned toward a completed Associate of Applied Science (A.A.S.) degree from a regionally accredited community college will be counted in the Regis University Bachelor of Applied Science (B.A.S.) foundational area. Examples of A.A.S. degrees that qualify for transfer into the B.A.S. degree include: • Addiction Studies • Criminal Justice • Emergency Management Planning • Fire Science • Hotel, Restaurant and Casino Management • Interpreter Preparation Program (Deaf Studies) • Law Enforcement • Mental Health/Developmental Disabilities • Paralegal Studies • Public Security Management

			NOTE: Earned A.A.S. degrees with majors in applied occupational technical areas do not qualify for transfer into the B.A.S. degree at Regis University.
Major requirements (list all required major coursework including major core, major electives, subplan core, subplan electives; courses count towards major units and major GPA). Courses listed must include course prefix, number, units, and title. Mark new coursework (New).	**BAS in Intelligence & Information Operations Core (30 units)** BASV314 Mathematics for Applied Sciences (3 Units) CYBV329 Cyber Ethics (3 units) (New) INTV350 Collection Operations (3 units) (New) CYBV450 Information Warfare (3 units) ENGV306 Advanced Composition (3 units) GPSV301 American Political Ideas (3 units) (New) INTV305 Introduction to Intelligence & Information Operations (3 units) (New) INTV326 Introductory Methods of Intelligence Analysis (3 units) (New) INTV459 Intelligence, Surveillance & Reconnaissance Synchronization (3 units) (New) INTV498 Senior Capstone (3 units) **Operational Intelligence Subplan Core (12 units)** (New) INTV455 Target Centric Analysis (3 units) GPSV471 National Security & Intelligence (3 units) ***Choose 2*** (New) CYBV351 Signals Intelligence & Electronic Warfare (3 units) (New) CYBV354 Principles of Open Source Intelligence (3 units) CYBV473 Violent Python (3 units) (New) CYBV474 Advanced Analytics for Security Operations (3 units) CYBV479 Wireless Networking & Security (3 units) CYBV496 Special Topics in Cyber Security (3 units) ECE340A Introduction to Communications (3 units)	**MAJOR REQUIREMENTS** **B.A.S. Requirements (18 units)** Please note: at least 15 units in the core must be upper-division (300-400 level) courses. **Communication Block (3 units)** JUS 350W: Research Methods In Criminal Justice (3 units) **Public Administration and Management Block (3 units)** PADM 329: Labor Management Relations (3 units) **Values, Ethics, and Policy Block (3 units)** SOCIO 339: Crime, Law And Society (3 units) **Technical, Quantitative, Qualitative and Science Block (3 units)** PADM 356, Applied Program Planning And Evaluation (3 units) **Electives (6 units)** BBA 340: Management Information Systems (3 units) PADM 356: Applied Program Planning And Evaluation (3 units) SOC 301: Topics In Contemporary Social Issues (3 units) • Please note you may use the same course to satisfy both a liberal studies and a B.A.S. Requirement. JUS 411: Adjudication Justice (3 units) JUS 450: Leadership Theor And Practice For Justice Administrators (3 units) **Intelligence Studies Emphasis (21 units)** INT 301: Intelligence And National Security (3 units) or JUS 315: Intelligence-led Policing (3 units) INT 440: Legal And Ethical Issues In Intelligence (3 units)	**BAS Upper Division Requirements (12 units selected from the following areas)** **Leadership Skills** (Three units selected from the following) BA 407/COM 407--Leadership Principles (3 units) BA 410/COM 410--Strategic Leadership (3 units) COM 442--Leadership Change and Innovation (3 units) CIV/PSCV 440--Leadership in Civil Society **Ethics/ Cultural Awareness** (3 units selected from the following) BA 495E--Ethical Decision Making in Business (3 units) PY 440--Professional Ethics in Psychology (3 units) COM 427--Communication Ethics (3 units) CR 425--Professional Ethics in Criminology (3 units) **Decision Making** BA 473/ COM 470--Decision Making and Problem Solving (3 units) **Emotional Intelligence** (3 units selected from the following) PY 414--Positive Psychology (3 units) PY 463--Psychology of Intimate Relationships (3 units) PY 480--Forgiving Others, Forgiving Ourselves **Homeland Security Specialization (15 units)** CR 445--Homeland Security (3 units) CR 446--Perspectives on Terrorism (3 units) CR 448--Homeland Security: Legal & Ethical Issues (3 units) CR 449--Vulnerability and Security (3 units) CR 460--Computer Forensics and Cybercrime (3 units) CAP 494--Senior Capstone (3 units) **General Electives (27 credit hours)**

	GPSV496 Special Topics in Regional Politics and Security (3 units) GPSV314 National Security Policy (3 units) GPSV443 Armed Conflict & Conflict Management (3 units) GPSV473 National Security Operations & Issues (3 units) GPSV474 Politics of Terrorism (3 units) (New) INTV493 Internship in Intelligence & Information Operations (3 units) (New) INTV496 Special Topics in Intelligence & Information Operations (3 units) RNR335 Introduction to Geospatial Concepts and Defense Applications (3 units) **Law Enforcement Intelligence Subplan Core (12 units)** CYBV388 Cyber Investigations & Forensics (3 units) NETV477 Advanced Computer Forensics (3 units) ***Choose 2*** CYBV435 Cyber Threat Intelligence (3 units) CYBV436 Counter Cyber Threat Intelligence (3 units) (New) CYBV440 Digital Espionage (3 units) (New) CYBV441 Cyber War, Terror & Crime (3 units) CYBV496 Special Topics in Cyber Security (3 units) GPSV313 The American Judicial System (3 units) GPSV388 Immigration & Refugee Policy (3 units) GPSV461 Civil Liberties and the U.S. Constitution (3 units) GPSV496 Special Topics in Regional Politics and Security (3 units) GPSV442 International Law (3 units) GPSV474 Politics of Terrorism (3 units) (New) INTV493 Internship in Intelligence & Information Operations (3 units)	JUS 452: Criminal Intelligence Leadership And Management (3 units) **Select four courses from the following (12 units):** INT 302: Promoting Terrorist Ideologies (3 units) INT 315: Intelligence Collection, Analysis And Technology (3 units) INT 340: Psychology Of Terrorism (3 units) INT 370: Threats, Vulnerabilities And Risks (3 units) INT 415: Issues And Strategies Of Counterintelligence (3 units) JUS 352: Applications Of Criminal Intelligence In Policing (3 units) JUS 339: Justice Theory (3 units) JUS 412: Crime Control Strategies (3 units) JUS 414: Juvenile Justice In The United States (3 units) JUS 435: Profiles Of Deviant Behavior (3 units) **OR** **Intelligence Studies Emphasis (21 units)** INT 301: Intelligence And National Security (3 units) or JUS 315: Intelligence-led Policing (3 units) INT 440: Legal And Ethical Issues In Intelligence (3 units) JUS 452: Criminal Intelligence Leadership And Management (3 units) **Select four courses from the following (12 units):**	

	(New) INTV496 Special Topics in Intelligence & Information Operations (3 units) **Information Warfare Subplan** **Core (12 units)** (New) CYBV354 Principles of Open Source Intelligence (3 units) (New) CYBV437 Deception, Counter-Deception & Counter-Intelligence (3 units) ***Choose 2*** CYBV 435 Cyber Threat Intelligence (3 units) CYBV 436 Counter Cyber Threat Intelligence (3 units) (New) CYBV441 Cyber War, Terror & Crime (3 units) CYBV496 Special Topics in Cyber Security (3 units) GPSV 496 Special Topics in Regional Politics and Security (3 units) GPSV314 National Security Policy (3 units) GPSV442 International Law (3 units) GPSV443 Armed Conflict & Conflict Management (3 units) GPSV471 National Security & Intelligence (3 units) GPSV473 National Security Operations & Issues (3 units) GPSV474 Politics of Terrorism (3 units) (New) INTV493 Internship in Intelligence & Information Operations (3 units) (New) INTV496 Special Topics in Intelligence & Information Operations (3 units)	INT 302: Promoting Terrorist Ideologies (3 units) INT 315: Intelligence Collection, Analysis And Technology (3 units) INT 340: Psychology Of Terrorism (3 units) INT 370: Threats, Vulnerabilities And Risks (3 units) INT 415: Issues And Strategies Of Counterintelligence (3 units) JUS 352: Applications Of Criminal Intelligence In Policing (3 units)	
Internship, practicum, applied course requirements (yes/no). If yes, provide description.	Yes. Students must complete (New) INTV498, Senior Capstone, with a minimum 45 hour student engagement experience.	Optional	CAP 494--Senior Capstone (3 units)
Senior thesis or senior project required (yes/no)	Yes. Students engage in a senior project and write a senior project thesis paper as part of the (New) INTV498—Senior Capstone.	Required: JUS 421C: Senior Capstone In Justice Studies (3 units) **or** PADM 408C: Field Work Experience:	No

Additional requirements (provide description)	Students must earn a minimum 2.0 major GPA.	Minimum 2.0 Major GPA	None
Minor (specify if optional or required)	Optional	Emphasis Required/Minor Optional	Optional

*Note: comparison of additional relevant programs may be requested.

THE UNIVERSITY OF ARIZONA

College of Engineering
Department of Electrical and
Computer Engineering

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August 21, 2019

MEMORANDUM OF UNDERSTANDING ("MOU")

This MOU outlines the agreement between UA South and the College Engineering – Electrical and Computer Engineering Department, collectively referred to as the "Parties," regarding the approval to include the listed ECE courses in the UA South New Academic Program Application for the BAS in Intelligence & Information Operations.

The purpose of this program is to expand the STEM course offerings to UA South students enrolled in the Intelligence & Information Operations BAS degree program. Nothing in this MOU shall be construed to limit or otherwise restrict the Parties from offering their individual courses as part of other curricula, or as stand-alone courses.

ECE175	(3 units):	Computer Programming for Engineering Applications
ECE274A	(3 units):	Digital Logic
ECE275	(3 units):	Computer Programming for Engineering Applications II
ECE340A	(3 units):	Introductions to Communications
ECE369A	(3 units):	Fundamentals of Computer Organization

The Parties agree that the tuition revenue from the courses will be attributed to the Responsibility Center Unit that taught the course.

This agreement is continuous until mutually agreed in writing by the Parties to cancel or modify. Cancellations and modifications can occur at the end of any completed semester.

Approved:

Tamal Bose

_____

Tamal Bose, Ph.D.
Professor and Department Head

From: Denno, Jason R - (jasondenno)
To: Henley, Esther M - (ehenley)
Subject: FW: Follow Up on Geospatial Course
Date: Thursday, October 3, 2019 1:51:23 PM

Hello Esther,

Below you see the support for the RNR class for use in the BAS IIO New Academic Program application. I will continue to work on getting the MOU completed as well.

Just keeping you in the loop.

Jason

Jason Denno
Director, Cyber, Intelligence & Information Operations
National Center of Academic Excellence-Cyber Operations (CAE-CO)
Intelligence Community-Center of Academic Excellence (IC-CAE)
University of Arizona
520-227-7203

From: "Siderelis, Karen - (ksiderelis)" <ksiderelis@email.arizona.edu>
Date: Thursday, October 3, 2019 at 10:38 AM
To: "Denno, Jason R - (jasondenno)" <jasondenno@email.arizona.edu>
Cc: "Ruff, Alex Arthur - (aruff)" <aruff@email.arizona.edu>, "Alexander.A.Ruff@nga.mil" <Alexander.A.Ruff@nga.mil>
Subject: Follow Up on Geospatial Course

Hi Jason,

I hope you are doing well and having a good semester!

I am following up on our recent communications about RNR335. I have had several discussions with others and wanted to let you know what I am finding. (Please pardon the lengthy message!)

1. We are thrilled about having the course become part of your new BAS program. In the long run, we hope you can support the course fully in the new College of Applied Science and Technology, where there seems to be a more ideal fit. We will assist in any way possible to help transition the course to you. For Spring semester, it probably makes sense to leave it in the School of Natural Resources and the Environment (College of Agriculture and Life Sciences) and operate under a MOU as you proposed.
2. The director of SNRE is pursuing getting a MOU in place, but he is on travel at the moment. Do you have an existing agreement with CALS that would suffice? If not, we should be able to handle a new MOU soon. Having an agreement in place also will be

helpful as you seek accreditation for a GEOINT certificate program.

3. Our grant from the Office of Naval Research can cover the instructor costs to offer the course **online** for spring and possibly summer semesters. We will plan to hire an adjunct through CALS. We are hoping to enroll at least 20 students to maintain credibility with ONR -- and hope you can help us reach that target. We will float a vacancy in the next few weeks.
4. We expect to hire Alex Ruff as an adjunct instructor. Alex was the project manager for our ONR grant and helped design and teach RNR335. He is now employed with the National Geospatial-Intelligence Agency and interested in teaching the course online. He would be ideal in this role. In the future, hiring discussions can be between the two of you. (Linda Denno has met Alex and I feel certain she shares our respect for Alex and his expertise.)
5. Alex Ruff currently does not have access to D2L. Do you think it would be possible for you to develop a DCC agreement with him, so he can get a UA netid and begin work on the course D2L site soon? In the long run, an affiliation between him and your Intelligence Studies program might offer many benefits. I would be happy to assist if needed.
6. I stand ready to help with the collegiate accreditation process through the US Geospatial Intelligence Foundation. Alex and I have done a lot of research on the options over the past several years. In the meantime, I am sending a link to the USGIF website.

   https://usgif.org/education/accreditation

Well, that's all for now Jason. I look forward to working with you on his exciting direction. Please feel free to call or email at any time.

Karen Siderelis
919-219-3393

PS, I am teaching a masters level Geospatial Intelligence course in the International Security Studies program for the second session of Fall and it is fully booked - I believe this is a good indication of the demand for education about the GEOINT domain.

From: Denno, Jason R - (jasondenno) <jasondenno@email.arizona.edu>
Sent: Friday, August 30, 2019 1:35 PM
To: Siderelis, Karen - (ksiderelis) <ksiderelis@email.arizona.edu>
Subject: Re: Geospatial Intelligence Course

Hello Karen,

I look forward to speaking with you about the inclusion of RNR335 in our BAS degree program. I am also very interested in being able to have my students access the GEOINT certificate program.

I have attached a draft MOU that would allow us to use your course. This is worded exactly like the signed MOU we have with ECE for the inclusion of their courses. We must have these MOUs included in our New Academic Program Application. It would be great if we could get a signed copy of this MOU to show we have your support to include your class in our program plan.

Please feel free to reach out and I will provide you all of the details of our new program and answer any questions you might have.

Warmest Regards,

Jason

Jason Denno
Director, Cyber Operations
National Center of Academic Excellence-Cyber Operations (CAE-CO)
Intelligence Community-Center of Academic Excellence (IC-CAE)
University of Arizona
520-227-7203

On 8/30/19, 10:37 AM, "Siderelis, Karen - (ksiderelis)" <ksiderelis@email.arizona.edu> wrote:

Hello Jason,

I hope this email finds you well and enjoying success with your new Intelligence Studies degree program.

I have been meeting and communicating with Linda Denno over the last year or so about ways to collaborate on a defense-focused geospatial course we developed under a grant from the Office of Naval Research. We are in the last year of the grant and are looking at ways to sustain the course over the long run. As we discussed with Linda, there seems to be an ideal fit with your new program for the long term. Is it possible to find a time to discuss options in the near future? If you are planning to be on the main campus, any time soon, perhaps we can meet face-to-face. If not, we could start with a phone conversation. If Linda has not forwarded you the course syllabus, I would be happy to resend it.

Also, it would great to discuss the possibility of your program pursuing accreditation for a GEOINT certificate program.

Respectfully,

Karen Siderelis
919-219-3393