

**Memorandum of Understanding**

Between

Lake Region State College

And

Royal Air Force of Oman

The week of January 24, 2022, Dr. Doug Darling of Lake Region State College [LRSC] invited **Major \ Abdulaziz Khalifa Saif AL kiyumi** and **Captain \ Hamid Bakhit Mohammed Hasun AL shahri** of The Royal Air Force of Oman [RAFO] to discuss our continued cooperation in educating students in the field of Simulation Technology. LRSC and RAFO negotiated two new educational opportunities.

The first educational opportunity is a thirteen-credit spring semester, late eight-week Simulation Technology Certificate program to begin in the spring of 2023. Students will complete eight weeks of coursework at the LRSC campus and an internship in Oman to complete the certificate. Students will take part in the LRSC graduation ceremony prior to their return to Oman and the certificate will be awarded upon the successful completion of the internship. RAFO intends to send five students in 2023 and ten students in subsequent years. Specific details of the program are attached.

The second educational opportunity discussed is an advanced three-week Summer Short Course. The five-credit course will consist of two weeks of classroom / lab time on the LRSC campus and one week in Minneapolis, Minnesota at CAE Civil Aviation Training. LRSC can accept up to ten students for this class beginning in May 2022. Specific details of the course are attached.

RAFO will assist students in obtaining the necessary visa and related documentation to travel to the United States and send LRSC certified transcripts in English and vaccination records for admission. The LRSC International Coordinator will help facilitate the admissions process.

LRSC and RAFO agree that if changes need to be made to either the Summer Short Course or the Simulation Technology Certificate Program the parties will work to resolve and implement the necessary changes.



President Dr. Doug Darling



Major \ Abdulaziz Khalifa  
Saif AL kiyumi

Enclosures:  
Simulation Technician Certificate  
Summer Short Course

# Simulation Technology Certificate Guide for RAFO

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## Certificate

Spring Semester		Credits	Days	Time	Session
ELEC 272	Introduction to Simulation	3	MTWR	08:00 – 09:30	Eight Week
ELEC 275	Visual Systems	2	MTWR	13:00 – 13:50	Eight Week
ELEC 282	Technical Simulation	3	MTWR	15:00 – 16:30	Eight Week
ELEC 283	Simulator Systems	2	MTWR	14:00 – 14:50	Eight Week
COOP 196	Cooperative Education	3	MTWRF	Assigned by RAFO	Eight Week

**Total Certificate Credits                      13**

### **Special Note:**

Must have documented proof of having attended and completed formal education (civilian or military) in the following technical disciplines:

- DC Analysis
- AC Analysis
- Digital Integrated Circuits
- Semiconductor Devices
- Microcomputer Hardware Maintenance
- Computer Networking
- Unix / Linux Operating System

Upon completing this program of study, the student will be awarded a Certificate of Simulation Technology from Lake Region State College.

# Simulation Technology Certificate Guide for RAFO

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## Electronics, Simulation, and Computer Class Information

**ELEC 272 Introduction to Simulation** – The principles of simulation facilities and simulator maintenance are presented. The course covers simulator operation, preventive maintenance, corrective maintenance, safety, facility and tool care, and work ethics in the simulator environment.

**ELEC 275 Visual Systems** – The course presents visual image generation systems and image display systems. The discussion covers how computer image generators produce image data and how display systems convert the data to visible displayed images.

**ELEC 282 Technical Simulation** – Principles of navigation and aircraft safety systems are discussed. How these systems are simulated and presented in the simulator are taught.

**ELEC 283 Simulator Systems** – This course introduces the student to various systems used to provide the simulated environment. The systems included in this course are Motion Cueing, Control Loading, Aural Cueing, Input/Output systems, Simulation Control systems, and Simulator Networking.

**COOP 196 or 197 Cooperative Education** – This course is an eight-week long working internship within an actual operational flight training facility. The student will be working alongside simulation technology technicians on real-world problems and maintenance issues that would normally be seen in a simulator facility on a day-to-day basis.

The program of study for the Certificate program in Simulation Technology assumes the student will enter the program with documented evidence of having attended a formal education program (civilian or military) that educates the student and assesses their proficiency in the following disciplines required for success in the Simulation Technology career: DC Analysis, AC Analysis, Digital Electronics, Semiconductor Electronics, Microcomputer Hardware Maintenance, Computer Networking, and Unix/Linux Operating Systems.

This document is meant to be a guide to the Simulation Technology certificate program and its requirements. Please feel free to email or call for more information if needed. The program and international advisors' contact information is shown below:

Simulation Technology Program Advisor:

Richard Drury

Email: [richard.d.drury@lrsc.edu](mailto:richard.d.drury@lrsc.edu)

Office Ph: 701-662-1555

800-443-1313 ext. 21555

Mobile Ph: 678-641-3734

International Advisor:

Casey Zehrer

Email: [casey.zehrer@lrsc.edu](mailto:casey.zehrer@lrsc.edu)

Office Ph: 701-662-1689

800-443-1313 ext. 21689

# Simulation Technology Certificate Guide for RAFO

## Simulation Technology International Cost Estimate

The Certificate in Simulation Technology program is a one-semester program that begins in March and ends in May. The full cost of the program is estimated to cost \$10,500.00 for each student. This cost includes:

ITEM:	DESCRIPTION:
Tuition & Fees	Tuition and fees for one semester (13 credits) for RAFO SIM TECH program.
Room & Board	Ten weeks of on-campus student housing, double room, Gold meal plan (18 meals / week), and fees.
Health Insurance	State mandated student health insurance for international students.
Transportation	Transportation to the college from Devils Lake Airport (DVL) and back to the airport to next location.
Bedding / Linens	Bedding - fitted sheet, sheet, pillow, pillowcase, and blanket, towels, washcloths, laundry detergent
Basic Kitchen Items	Cups, plates, bowls, plates, drinking glasses, silverware, food storage, dish soap.
Total Cost of Program:	\$10,500.00

The Certificate in Simulation Technology will include an eight-week internship in Oman and supervised by RAFO in one of their flight simulation facilities. The internship allows the student to work alongside the simulation technicians at the facility to learn from them and practice maintenance and troubleshooting skills learned in the coursework of the program.

The cost of the internship tuition and fees are included in the program tuition and fee costs. Students will be provided breakfast, lunch, and dinner when on campus.

The student needs to make sure their US visa and educational documentation is in order and allows internship attendance. Students are also responsible for all costs associated with obtaining the proper visa for study in the United States. LRSC International Coordinator will be available to assist with the admissions process.

The costs outlined in this document are subject to change as tuition, fees, room & board, and health insurance costs are reevaluated every July.

## Summer Short Course

Spring Semester	Credits	Days	Time	Session
ELEC 290	5	MTWRF	09:00-15:00	Two Week
		MTWRF	00:00-04:00	One Week

### Special Note:

The Summer Short Course will consist of two weeks (10 days) in the classroom at LRSC and five days in Minneapolis.

## Electronics, Simulation, and Computer Class Information

### ELEC 290 – Advanced Simulation Technology Course

Catalog Description: This course is designed for advanced development of simulator technician knowledge and skills. Topics to be covered include, but are not limited to: DC / AC, digital circuits, semiconductor devices, simulator networking, CRT and digital projectors, image generator, control loading, motion, I/O System, and troubleshooting.

#### MAJOR UNITS:

Unit 1: DC / AC Refresher

Unit 2: Lab work for DC, AC, Digital Circuits, Semiconductor Devices

Unit 3: Simulation Overview (Flight Controls, Instrumentation)

Unit 4: Simulator Networking, Communication, and Interface (I/O System)

Unit 5: CRT Projectors / Digital Projectors and Projector Alignment (visual adjustment)

Unit 6: Image Generator

Unit 7: Control Loading

Unit 8: Motion

Unit 9: Troubleshooting – Time Constrained (2 Days)

Unit 10: Simulation Control

Unit 11: Training in MSP at the CAE Civil Aviation Training Facility

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## Simulation Technology International Cost Estimate

The Summer Short Course is a three-week course that begins in May and ends in June. The full cost of the program is estimated to cost \$6,000.00 for each student. This cost includes:

ITEM:	DESCRIPTION:
Tuition & Fees	Tuition and fees for three-week program for a total of 5 credits or 70 seat hours.
Room & Board	Two weeks on campus and one week at a hotel.
Health Insurance	State mandated student health insurance for international students.
Transportation	Transportation to the college, training location, and back to the college.
Bedding / Linens	Bedding - fitted sheet, sheet, pillow, pillowcase, and blanket, towels, washcloths, laundry detergent.
Basic Kitchen Items	Cups, plates, bowls, plates, drinking glasses, silverware, food storage, dish soap.
Total Cost of Program:	\$6,000.00

The Summer Short Course is an advanced three-week simulation technology course. The last week of the course students will receive hands-on training alongside the simulation technicians at the facility to learn from them and practice maintenance and troubleshooting skills learned in the coursework of the program.

The cost of the internship tuition and fees are included in the program tuition and fee costs. Students will be provided breakfast and lunch when on campus. Meals are not provided when students are off-site. Students will be in dorms / hotels two per room. Officers will be in single rooms. Should more than one officer be in attendance an adjustment in cost may be made.

The student needs to make sure their US visa and educational documentation is in order and allows internship attendance. Students are also responsible for all costs associated with obtaining the proper visa for study in the United States. LRSC International Coordinator will be available to assist with the admissions process.

The costs outlined in this document are subject to change as tuition, fees, room & board, and health insurance costs are reevaluated every July.