



Quantum Optics Institute of Southern California

Draft Business Plan (Bold and underlined are links to URLs.)

Prepared For: Founding Stakeholders, Industry Partners, Academic Collaborators, and Prospective Investors

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Executive Summary

The Quantum Optics Institute of Southern California (QOISC) is a proposed non-profit technical education and applied research institute focused on quantum optics, photonics, lasers, quantum networking, and emerging quantum technologies. Located in Irvine, California, the QOISC will combine classroom instruction, hands-on laboratory education, and collaborative industry experimentation within a dedicated quantum optics training and innovation facility. The QOISC (formerly the [OISC](#)) has been an education and outreach partner of the [Optical Society of Southern California \(OSSC\)](#) for over 23 years.

The institute will provide:

- Technical education and workforce development in optics, lasers, fiber-optics, photonics and quantum technologies, including teacher training and applications of these technologies with AI,
- Laboratory-based instruction with industry-standard optical equipment,
- Access to a live quantum networking environment using Qunnect quantum networking infrastructure,
- Collaborative partnerships with UC Irvine, Chapman University and regional quantum technology organizations
- Industry-accessible advanced optics laboratories for experimentation and prototype development,
- Quantum technology outreach and consortium-building through the Quantum Orange County Consortium.

The QOISC will initially operate from a purpose-built approximately 7,200 square foot educational and laboratory facility in Irvine, California. The facility will include:

- One classroom for lecture-based instruction
- One conference room for meetings and collaborations
- A primary Quantum Optics Laboratory for education

- Three Advanced Optics Laboratory suites for research and development
- Administrative offices
- IT server/networking room
- Utility and storage areas

The Institute's mission is to bridge the gap between academic theory and practical implementation of quantum technologies by training students, supporting industry experimentation, and participating in the development of regional quantum infrastructure.

Mission Statement

To educate, train, and support the next generation of quantum technology professionals and teachers through hands-on optics and quantum + AI systems education, collaborative research, and industry partnerships.

Vision Statement

To establish Orange County California as a leading regional hub for quantum optics education, workforce development, and quantum networking innovation.

Organizational Overview

Proposed Legal Structure

QOISC may operate as either:

- A California nonprofit educational institution
- A public benefit corporation with educational and research divisions

Final legal structure will depend on funding strategy, accreditation goals, and grant eligibility requirements.

Facility Overview (See diagram at the end of this document.)

Location: Irvine, California

The Irvine location provides:

- Proximity to [UC Irvine's Eddleman Quantum Institute](#), [Chapman University's Institute of Quantum Studies](#), California State Universities at Fullerton & Pomona
 - Proximity to many Orange County Community Colleges and K-12 schools.
 - Connections to many Southern California optics, photonics, fiber-optics, semiconductor and quantum companies.
 - Access to Southern California biomedical, telecommunications technology and defense industries
 - Access to photonics and semiconductor companies
 - Strong transportation infrastructure
 - Availability of flex R&D/educational spaces
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Facility Description

Total Facility Size

Approximately 7,200 square feet

Facility Components

Classroom

- Capacity: 30 students
- Primary use: lectures, seminars, theory instruction
- Includes projector / display systems and lecture desk

Conference Room

- Capacity: 10 people
- Use cases:
 - Industry meetings
 - Consortium discussions
 - Hybrid instruction
 - Technical workshops

Quantum Optics Laboratory

- Core instructional laboratory

- Six optical tables (6' x 4')
- Eyewash station and laboratory sink
- Qunnect quantum networking integration
- Storage cabinets and utility areas

Advanced Optics Laboratory Suites

Three dedicated experimental suites containing:

- One 8' x 4' optical table in one suite and one 6'x4' optical table in two suites
- Dedicated work desk and chair
- Storage cabinets
- Controlled experimental environment
- Quantum network access
- Emergency exit access

These suites will be leased to industry partners and research collaborators. They may also be used for educational Capstone projects by students seeking Certificate of Completion.

IT Server Room

- Quantum network infrastructure
- Optical networking equipment
- Local compute and storage systems
- Secure networking hardware

Administrative Offices

- Administrative office 1
- Administrative office 2

Reception Area

- Visitor management
 - Student check-in
 - Administrative coordination
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Educational Programs

Core Educational Philosophy

AI will be used throughout the courses and programs as appropriate. There will be significant emphasis on how to use AI to augment the learning process, especially as it relates to applications of these technologies to specific industries. The applications of these technologies will be a prime focus to engage students, teachers and researchers.

QOISC will emphasize:

- Practical hands-on learning
- Laboratory-first instruction
- Industry-relevant quantum technologies
- Experimental optics and photonics
- Real-world quantum networking systems

Students will directly interact with:

- Lasers
 - Optical tables
 - Fiber optics systems
 - Quantum communication systems
 - Photon detection systems
 - Alignment equipment
 - Interferometers
 - Optical instrumentation
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Initial Course Offerings

QOISC's educational curriculum is designed to support students, teachers, technicians, engineers, researchers, and industry professionals seeking practical and theoretical knowledge in optics, photonics, quantum technologies, fiber optics, and advanced laboratory systems.

The curriculum combines:

- Classroom theory
- Laboratory instruction
- Technical drafting and documentation
- Industry-oriented practical exercises

- Collaborative capstone projects
- Quantum networking demonstrations

Programs may be delivered as:

- Individual technical courses
 - Professional certificates
 - Workforce development programs
 - Teacher training workshops
 - Corporate training modules
 - Continuing education workshops
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Course Format and Tuition

QOISC courses will be designed as intensive 10-week instructional programs combining classroom instruction, laboratory exercises, technical demonstrations, and hands-on experimental activities. Laboratory notebooks and reports will be required.

Standard Course Tuition

- Tuition: \$500 per 10-week course
- Laboratory fees: Included
- Books and instructional materials: Not included

Included Student Resources (teachers being trained are included as students here)

Course tuition includes access to:

- Laboratory facilities
- Optical and photonics equipment
- Fiber optics training systems
- Quantum networking demonstrations
- Safety equipment during scheduled laboratory sessions
- Technical software and instructional resources

Additional Costs

Students may be responsible for:

- Textbooks
- Personal notebooks and lab materials
- Optional software licenses
- Advanced project materials for capstone activities

QOISC intends to maintain affordable tuition pricing to support workforce development accessibility and regional STEM education growth.

Potential future offerings may include:

- Multi-course certificate discounts
 - Corporate training packages
 - Sponsored scholarships
 - Workforce development grants
 - Student internship sponsorships
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Core Curriculum Overview

Applications of Optics, Lasers, Fiber-Optics, and Quantum Technologies

An introductory overview of how these technologies are used in real world applications. This will include, human vision and rainbows as a starting point, leading to simple and advanced cameras, microscopes, telescopes, telecommunications, medical optics, semiconductors, computers and the internet. Some defense applications will be reviewed in both the historical and modern context.

Introduction to Optics

Fundamental principles of geometrical and wave optics including imaging systems, polarization, diffraction, interference, and optical alignment.

Laser Fundamentals

Introduction to laser physics, laser safety, beam propagation, laser systems, semiconductor lasers, and laboratory laser operation.

Fiber-Optics

Fundamentals of optical fiber systems including fiber transmission, connectors, splicing, DWDM systems, optical networking, and quantum fiber infrastructure.

Optomechanics, Thermal and Vibration Control

Mechanical integration of optical systems including mounts, alignment systems, vibration isolation, optical breadboards, thermal stability, and laboratory environmental control.

Quantum Technologies – Overview

Survey course covering quantum computing, quantum communication, quantum sensing, quantum materials, and quantum networking technologies.

Quantum Computing

Introduction to qubits, quantum gates, quantum algorithms, quantum hardware platforms, error correction concepts, and practical quantum computing architectures.

Quantum Networks

Study of quantum communication systems, entanglement distribution, quantum repeaters and memories, quantum key distribution, timing systems, and fiber-based, free space and satellite quantum networking.

Quantum Sensors

Overview of quantum-enhanced sensing systems including atomic clocks, magnetometers, interferometric sensors, imaging systems, and precision measurement technologies.

Optics & Photonics Technical Drawings

Technical documentation course covering optical layouts, laboratory diagrams, engineering drawings, CAD fundamentals, optical schematics, and photonics documentation standards.

Thin Film Coatings

Introduction to optical thin films, dielectric coatings, reflective coatings, deposition methods, coating performance, and optical characterization.

Quality Assurance for Optics

Inspection and quality control techniques for optical components and photonics systems including surface inspection, interferometry, tolerancing, testing procedures, and standards compliance.

Advanced Lab Capstone Project

Final hands-on collaborative laboratory course where students design, build, align, test, and document a complete optics or quantum-related experimental system.

Capstone projects may include:

- Fiber optics communication systems
- Quantum networking demonstrations
- Laser measurement systems
- Optical sensing systems
- Quantum optics experiments
- Interferometric instrumentation
- Optical alignment systems

Students will keep laboratory notebooks and produce:

- Experimental documentation
- Technical drawings
- Laboratory reports

- System demonstrations
 - Final presentations
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Introduction to Optics

Topics include:

- Geometrical optics
- Wave optics
- Polarization
- Diffraction
- Interference
- Optical alignment
- Lens systems

Laboratory components:

- Beam steering
 - Lens characterization
 - Interference experiments
 - Optical alignment procedures
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Introduction to Lasers

Topics include:

- Laser physics
- Laser cavity operation
- Semiconductor lasers
- Fiber lasers
- Laser safety
- Beam shaping

Laboratory components:

- Laser alignment
 - Beam diagnostics
 - Power measurement
 - Modulation experiments
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Introduction to Quantum Mechanics for Technicians & Engineers

Topics include:

- Quantum states
- Wavefunctions
- Superposition
- Measurement
- Entanglement
- Quantum information concepts

Laboratory components:

- Photon counting
 - Quantum interference demonstrations
 - Polarization state experiments
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Quantum Optics Laboratory

Topics include:

- Single photon experiments
- Interferometry
- Quantum communication principles
- Quantum key distribution concepts
- Fiber-based optical systems

Laboratory components:

- Fiber coupling
 - Photon detection
 - Interferometers
 - Quantum optics demonstrations
-

Fiber Optics and Quantum Networking

Topics include:

- Optical fiber systems
- DWDM concepts
- Quantum repeaters and memories
- Quantum networking protocols
- Timing and synchronization

Laboratory components:

- Fiber splicing
- Network diagnostics

- Optical transmission experiments
 - Qunnect integration exercises
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Regional Quantum Ecosystem Collaborations

Quantum Orange County and Quantum City Irvine

QOISC intends to actively collaborate with Quantum Orange County and the Quantum City Irvine initiative to help establish Irvine and Orange County as a nationally recognized center for quantum technology innovation, workforce development, and quantum networking infrastructure.

These collaborations will support:

- Regional quantum ecosystem development
- Workforce training and technical education
- Quantum startup engagement
- Public-private partnerships
- Quantum networking infrastructure deployment
- Community STEM outreach and awareness

Potential collaborative activities include:

- Joint technical events and symposiums
- Industry networking programs
- Workforce development initiatives
- Educational workshops and demonstrations
- Quantum technology awareness campaigns
- Regional quantum infrastructure planning

QOISC's laboratory facility and educational programs provide a practical workforce development and applied laboratory component that complements broader regional economic development initiatives.

Southern California Quantum Alliance

Quantum California Collaboration

QOISC also intends to collaborate with Quantum California, So. Cal. Quantum Alliance and related statewide and regional initiatives that support California's leadership in:

- Quantum computing
- Quantum networking
- Quantum sensing
- Photonics and semiconductor technologies
- Quantum workforce development

Through these collaborations, QOISC aims to contribute to California's broader quantum technology ecosystem by:

- Providing technical workforce training
 - Supporting applied optics and networking education
 - Participating in statewide outreach and demonstration programs
 - Contributing educational and laboratory infrastructure for collaborative projects
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Membership in the:

Quantum Economic Development Consortium (QED-C®)

QOISC intends to pursue membership in the Quantum Economic Development Consortium (QED-C®), a leading industry-driven consortium focused on accelerating the growth of the U.S. quantum industry and workforce. QOISC Director Donn Silberman has been an individual QED-C member since November 2022 when he was invited to present at the 1st Quantum World Congress in Washington, D.C.

[\(Video recording here. Slides here.\)](#)

Participation in QED-C® would provide enhanced opportunities for:

- Collaboration with national and international quantum industry leaders
- Workforce development alignment with national & global standards
- Participation in technical working groups
- Access to emerging industry best practices
- Collaboration on education and training initiatives
- Increased visibility for Southern California quantum ecosystem activities

QED-C® membership would help position QOISC within the broader national and global quantum technology community while supporting its mission of workforce development, applied education, and regional ecosystem growth.

Quantum Orange County Consortium

Consortium Purpose

The Quantum Orange County Consortium will function as a collaborative regional initiative connecting:

- Academic institutions
- Quantum startups
- Defense contractors
- Telecommunications companies
- Research laboratories
- Students and educators

The consortium will:

- Host technical events & organize workshops and seminars
 - Promote workforce development
 - Support collaborative research
 - Facilitate industry networking
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Public Library Quantum Network Initiative

Community Quantum Networking Vision

QOISC proposes the development of a Public Library Quantum Network initiative designed to introduce quantum technologies, fiber optics, photonics, and quantum communications concepts to the broader public through partnerships with local public libraries and educational community spaces.

The initiative will provide public-facing educational access to:

- Quantum networking demonstrations
- Fiber optics educational systems
- Interactive photonics exhibits
- Quantum communication concepts
- STEM workforce awareness programs
- Public lectures and workshops

The Public Library Quantum Network initiative is intended to help demystify quantum technologies while creating accessible educational pathways for students, educators, and the public.

Educational Objectives

The Public Library Quantum Network initiative will:

- Increase public awareness of quantum technologies
- Support STEM outreach and engagement
- Create educational pathways into optics and photonics careers
- Provide hands-on demonstrations of fiber optics and quantum communication systems
- Encourage secondary and post-secondary student participation in quantum workforce development programs

Potential educational activities include:

- Portable optics demonstrations
- Fiber optics workshops
- Quantum networking exhibits
- Introductory laser demonstrations
- Public science seminars
- Student outreach events

Regional Library Partnerships

QOISC intends to collaborate with:

- [**CENIC – The Corporation for Education Network Initiatives in California**](#)
- Orange County public libraries and local city run libraries like [**Newport Beach**](#) and [**Irvine Public Libraries**](#)
- Community learning centers
- Makerspaces
- STEM education organizations
- Local school districts

These partnerships will help expand access to quantum technology education throughout Southern California.

Quantum Network Demonstration Nodes

As the QOISC quantum networking infrastructure expands, selected public educational sites may host educational quantum networking demonstration nodes connected to the QOISC and [**Qunnect quantum network**](#) infrastructure.

Potential future capabilities include:

- Educational fiber-linked demonstrations
- Public quantum key distribution demonstrations
- Remote optics laboratory participation
- Interactive networking experiments
- Educational quantum communication visualizations

This initiative aligns with QOISC's broader mission of workforce development, regional ecosystem growth, and public STEM engagement.

Quantum Network Infrastructure

Qunnect Quantum Network Node

QOISC intends to deploy a quantum networking node using Qunnect technologies; pending funding for this system and the facility.

The node will:

- Connect to UC Irvine research infrastructure
 - Support quantum networking experiments
 - Enable educational demonstrations
 - Provide industry partner access
 - Facilitate collaborative quantum communication research
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UC Irvine Collaboration

Proposed Collaboration

QOISC plans to implement its collaboration with:

Professor Howard Lee's laboratory at UC Irvine

Located at:

UC Irvine Beall Applied Innovation

Potential collaboration areas include:

- Quantum networking experiments
- Fiber-based quantum communication
- Educational workshops
- Joint demonstrations
- Student research opportunities

- Industry engagement
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Chapman University Institute for Quantum Studies Collaboration

Proposed Academic Collaboration with outstanding faculty:

- [Andrew Jordan](#)
- [John Howell](#)
- [Ebrahim Karimi](#)

QOISC intends to pursue collaborative engagement with the Chapman University Institute for Quantum Studies, a nationally recognized center for research and education in quantum mechanics, quantum information science, and foundational quantum physics.

This collaboration would strengthen Southern California's regional quantum ecosystem by connecting:

- Applied technical education
 - Academic quantum research
 - Workforce development
 - Industry experimentation
 - Public outreach initiatives
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Potential Areas of Collaboration

Potential collaborative activities may include:

- Joint educational workshops
- Quantum science public lectures
- Student pathway programs
- Research seminars and symposiums
- Collaborative grant opportunities
- Quantum networking demonstrations
- Visiting researcher and guest lecturer programs
- Student laboratory experiences and mentorship

QOISC's applied laboratory environment complements Chapman University's theoretical and research-focused quantum science programs. Chapman University's new facility will include advanced research and education in quantum networks that could be a very good match with the QOISC.

Student and Workforce Development Pathways

QOISC, UC Irvine and Chapman University may work together to help establish educational pathways connecting:

- Secondary education programs
- Community college technical programs
- Workforce development initiatives
- Undergraduate & graduate quantum science education
- Industry internship opportunities

This collaboration could help students transition from introductory optics and photonics training into advanced quantum science and engineering studies.

Quantum Education and Outreach

QOISC will support UC Irvine & Chapman University outreach activities through:

- Public demonstrations
- Community STEM events
- Quantum education workshops
- Public Library Quantum Network programs
- Regional consortium events

The collaboration would further strengthen Southern California's visibility as an emerging center for quantum technology education and innovation.

Strategic Educational and Industry Partnerships

Optical Society of Southern California (OSSC)

QOISC will maintain a close collaborative relationship with the Optical Society of Southern California (OSSC), one of the region's leading professional organizations supporting optics, photonics, laser science, and optical engineering communities.

Through collaboration with OSSC, QOISC will:

- Participate in regional optics and photonics educational initiatives
- Support technical seminars and professional networking events
- Promote student engagement with the Southern California optics industry
- Facilitate guest lectures from industry experts and researchers

- Provide workforce development pathways into optics and quantum technology careers
- Connect students to internships and employment opportunities

OSSC's established relationships with Southern California optics and photonics companies provide an important bridge between classroom education and industry participation.

Potential collaborative activities include:

- Joint technical workshops
- Industry-sponsored laboratory demonstrations
- Student scholarship and mentorship programs
- Career exploration events
- Technical conference participation

Vital Link Partnership

QOISC collaborates with Vital Link, a Southern California workforce development and career pathway organization that connects secondary educational institutions with technical industries. QOISC Director Donn Silberman has been an active volunteer with Vital Link for over a dozen years and has served on their Board of Directors for several years.

Through partnership with Vital Link, QOISC plans to:

- Support STEM career awareness programs
- Introduce secondary school students to optics and quantum technologies
- Participate in workforce readiness initiatives
- Develop educational pathways from high school into quantum technology careers
- Support internships, apprenticeships, and industry mentorship programs

Vital Link's strong relationships with Orange County school districts and career technical education programs provide a valuable framework for expanding awareness of optics, lasers, fiber optics, photonics, and quantum technologies among secondary students.

Regional Workforce Development Ecosystem

Together, QOISC, OSSC, Vital Link, universities, and industry partners will help establish a coordinated regional workforce development ecosystem for:

- Optics and photonics education
- Laser technology training
- Fiber optics workforce development
- Quantum technology awareness

- Quantum networking workforce preparation
- Engineering career pathways

This ecosystem will help create direct educational pipelines connecting:

- Orange County secondary schools
- Community colleges
- Universities
- Research laboratories
- Quantum and photonics companies
- Telecommunications providers
- Defense and aerospace organizations

QOISC's role within this ecosystem will be to provide:

- Hands-on laboratory instruction
 - Industry-accessible quantum networking infrastructure
 - Technical workshops and demonstrations
 - Applied optics and quantum systems education
 - Industry collaboration opportunities
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Industry Partner Program

Advanced Optics Lab Leasing Program

The three Advanced Optics Laboratory suites will be leased to industry partners.

Target Industry Partners

Potential tenants include:

- Quantum technology startups
- Photonics companies
- Defense contractors
- Optical communications companies
- Sensor developers
- Academic spinouts

Included Features

Each suite includes:

- Optical table
- Laboratory workspace
- Storage cabinet
- Desk and workstation
- Quantum network access
- Shared conference room access
- Shared utility infrastructure

Potential Uses

- Prototype development
 - Quantum optics testing
 - Quantum networking experiments
 - Fiber communication experiments
 - Optical sensing research
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Revenue Model

Primary Revenue Streams

1. Educational Tuition

Revenue sources:

- Individual courses
- Certificate programs
- Corporate training
- Teacher training
- Laboratory workshops

2. Industry Lab Leasing

Revenue from:

- Advanced optics lab suites
- Shared equipment access
- Quantum network access fees

Laboratory Leasing Rates

Large Advanced Optics Laboratory

The large Advanced Optics Laboratory space includes:

- One 8' x 4' optical table
- Dedicated workspace
- Storage cabinets
- Quantum network connectivity
- Shared conference room access
- Shared facility utilities

Lease rates:

- \$4,000 per month
 - \$1,500 per week
 - \$750 per day
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Advanced Optics Laboratory Spaces 2 & 3

Each laboratory includes:

- One 8' x 4' optical table
- Desk and chair
- Storage cabinet
- Quantum network access
- Shared facility infrastructure

Lease rates per laboratory:

- \$3,000 per month
 - \$1,000 per week
 - \$500 per day
-

Additional services that may be available include:

- Fiber connectivity support
- Optical equipment setup assistance
- Laser safety coordination
- Technical consulting
- Shared equipment scheduling
- Event and workshop hosting

3. Corporate Training

Customized training programs for:

- Engineering teams
- Telecommunications companies
- Defense contractors
- Semiconductor companies

4. Teacher Training

Customized training programs for:

- K-12 teachers – possibly grouped by districts
- Career Technical Education specialists
- Community college instructors
- University instructors, professors, lab managers

5. Research Partnerships

Potential funding from:

- Joint development projects
- Sponsored experiments
- Research grants
- Federal programs

6. Consortium Memberships

Potential membership structure for:

- Corporate members
 - Institutional partners
 - Startup participants
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Target Markets

Primary Audiences

Students

- STEM students
- Physics students
- Career transition professionals
- Graduate students
- Technical workforce trainees

Teachers

- K-12 teachers
- Career Technical Education specialists
- Community college instructors
- University instructors, professors

Industry Professional

- Optical engineers
- Telecommunications engineers
- Semiconductor engineers
- Defense technology personnel

Corporate Partners

- Optics, Lasers, Fiber Optics & Quantum technology firms
 - Aerospace and defense companies
 - Telecom providers
 - Research organizations
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Competitive Advantages

Differentiators

Hands-On Learning Environment

Unlike many theoretical programs, QOISC emphasizes direct laboratory interaction.

Live Quantum Networking Infrastructure

Access to real quantum networking systems through Qconnect infrastructure.

Industry-Integrated Facility

Co-location of educational and commercial experimentation.

Regional Ecosystem Development

Direct integration with the Southern California quantum ecosystem.

Flexible Industry Collaboration

Dedicated rentable experimental laboratory suites.

Technology Infrastructure

Core Equipment

Optical Equipment

- Optical tables
- Lasers
- Beam steering systems
- Interferometers
- Optical mounts
- Fiber optics tools
- Detectors
- Oscilloscopes

Networking Equipment

- Qconnect quantum networking systems
- Fiber distribution hardware
- Precision timing systems
- Network monitoring systems

Computing Infrastructure

- Local servers
 - Network management systems
 - Data acquisition systems
 - Simulation workstations
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Staffing Plan

Initial Staffing

Executive Director

Responsibilities:

- Strategic leadership
- Industry partnerships
- Fundraising
- Academic coordination

Laboratory Director

Responsibilities:

- Lab operations
- Safety management
- Equipment oversight
- Experimental support

Instructors

Part-time and full-time instructors in:

- Optics
- Quantum mechanics
- Fiber optics
- Laser systems

IT/Network Administrator

Responsibilities:

- Quantum network support
- Server infrastructure
- Network security

Administrative Coordinator

Responsibilities:

- Student services
 - Scheduling
 - Reception operations
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Marketing Strategy

Marketing Channels with Partners

Digital Presence

- Website
- Technical blog
- Social media
- Educational videos

Academic Outreach

- University, Community College & K-12 partnerships
- Non-profit student engagement entities {Vital Link, Boys & Girls Clubs, etc.}
- Student workshops
- Guest lectures

Industry Outreach

- Consortium events
- Industry presentations
- Technical conferences

Community Engagement

- Public demonstrations
 - STEM outreach
 - High school partnerships
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Financial Overview

Startup Costs

Estimated Categories

- Facility leasehold improvements
- Optical tables and lab equipment (donations from local optics companies.)
- Quantum networking hardware (Qunnect Inc.)
- Furniture and fixtures
- IT infrastructure
- Insurance and legal expenses
- Marketing and branding

Potential Funding Sources

- Private investment
 - Corporate sponsorships
 - Federal grants
 - Educational grants
 - Industry partnerships
 - Consortium memberships
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Risk Factors

Key Risks

Technology Costs

Quantum and photonics equipment can be expensive and specialized.

Regulatory and Safety Compliance

Laser safety and laboratory compliance requirements must be carefully managed.

Market Education

The quantum technology market remains emerging and may require sustained outreach.

Talent Recruitment

Qualified instructors and laboratory staff may be difficult to recruit.

Growth Strategy

Phase 1

- Launch foundational educational programs
- Establish Qunnect node
- Build consortium membership
- Lease advanced lab suites

Phase 2

- Expand course offerings
- Add certificate programs
- Increase industry partnerships
- Pursue grant funding

Phase 3

- Establish accredited technical programs
 - Expand quantum networking infrastructure
 - Add additional laboratory spaces
 - Develop regional innovation center capabilities
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Long-Term Objectives

- Become a leading quantum workforce development center
 - Support regional quantum technology commercialization
 - Build an operational Southern California quantum networking hub
 - Develop industry-recognized training programs
 - Foster startup incubation and collaborative experimentation
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Conclusion

The Quantum Optics Institute of Southern California represents a unique opportunity to combine education, quantum networking, and applied optics experimentation within a single collaborative facility.

By integrating hands-on laboratory instruction, industry-accessible research spaces, and regional quantum networking infrastructure, QOISC can become a foundational institution supporting the emerging Southern California quantum ecosystem.

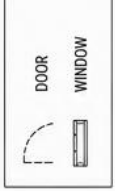
The combination of workforce development, industry collaboration, and experimental quantum networking creates a compelling model for sustainable growth and long-term regional impact.

120'-0"



- LEGEND**
(All dimensions in feet)
- 1 CLASSROOM (20 SEATS) 24' x 20'
 - 2 CONFERENCE ROOM (10 SEATS) 16' x 20'
 - 3 QUANTUM OPTICS LAB 28' x 40'
 - 4 RECEPTION 8' x 8'
 - 5 RESTROOM 8' x 8'
 - 6 STORAGE / UTILITY 7' x 8'
 - 7 IT SERVER ROOM 9' x 8'
 - 8 ADVANCED OPTICS LAB 40' x 60'

- OPTICAL TABLES**
- OPTICAL TABLE 1 6' x 4'
 - OPTICAL TABLE 2 6' x 4'
 - OPTICAL TABLE 3 6' x 4'
 - OPTICAL TABLE 4 6' x 4'
 - OPTICAL TABLE 5 6' x 4'
 - OPTICAL TABLE 6 6' x 4'
 - OPTICAL TABLE A 8' x 4'
 - OPTICAL TABLE B 6' x 4'
 - OPTICAL TABLE C 6' x 4'



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NOTE:
Furniture and equipment not to scale.